S8800-1-U

STATISTICS OF WISCONSIN PUBLIC UTILITIES

1988-1987-1986

ELECTRIC, GAS, TELEPHONE
WATER AND HEATING UTILITIES

PUBLIC SERVICE COMMISSION OF WISCONSIN
Accounts and Finance Division

Bulletin No. 8

December, 1989

STATISTICS OF WISCONSIN PUBLIC UTILITIES

1988-1987-1986

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STATISTICS OF WISCONSIN PUBLIC UTILITIES

This bulletin presents a statistical summary of public utilities operating in Wisconsin during the period 1988-1986 inclusive. In addition, selected data over longer periods are shown in the text or portrayed in the charts. Some Wisconsin utilities have operations outside the State. These operations are generally excluded from the summaries but this was not possible in the case of financial data shown in Tables 1, 2, and 3.

The following table gives an indication of the relative importance of various utility services included in the report.

	Year Ending December 31, 1988		
	Average Number of Customers*#	Operating Revenues*	Net Operating Revenues*
Electric	1,997,498	$2,698,077,306	$387,782,123
Gas	1,177,871	1,242,631,354	83,274,222
Telephone	2,372,403	1,407,135,784	263,165,385
Water	1,021,956	217,972,750	41,617,625
Heating	552	12,432,522	1 481,620
		$5,578,249,716	$777,320,970

* Excludes out-of-state operations.
\# Ultimate consumers.

Chart 1 presents a comparison of trends in gross operating revenue since 1979. Gas utility revenues increased by 26% in 9 years. Electric and telephone revenues increased 72% and 60% respectively while water revenues rose 102% during the 9-year period.

Chart 2 shows that since 1979, net operating telephone revenues have risen 45%, electric revenues 65% , water revenues 204% and gas revenues 54%.

CHART 1

COMPARATIVE TRENDS OF OPERATING REVENUES

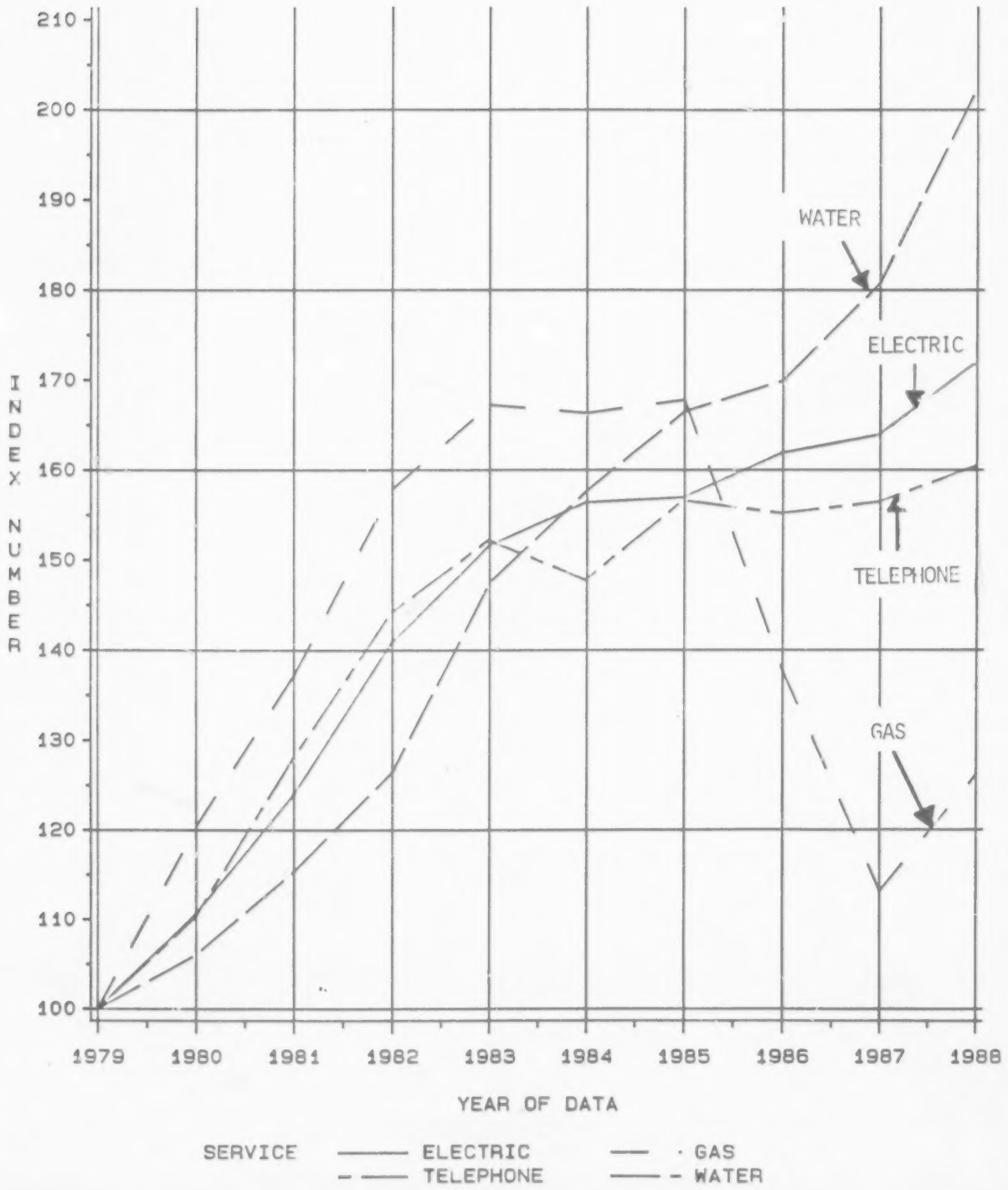
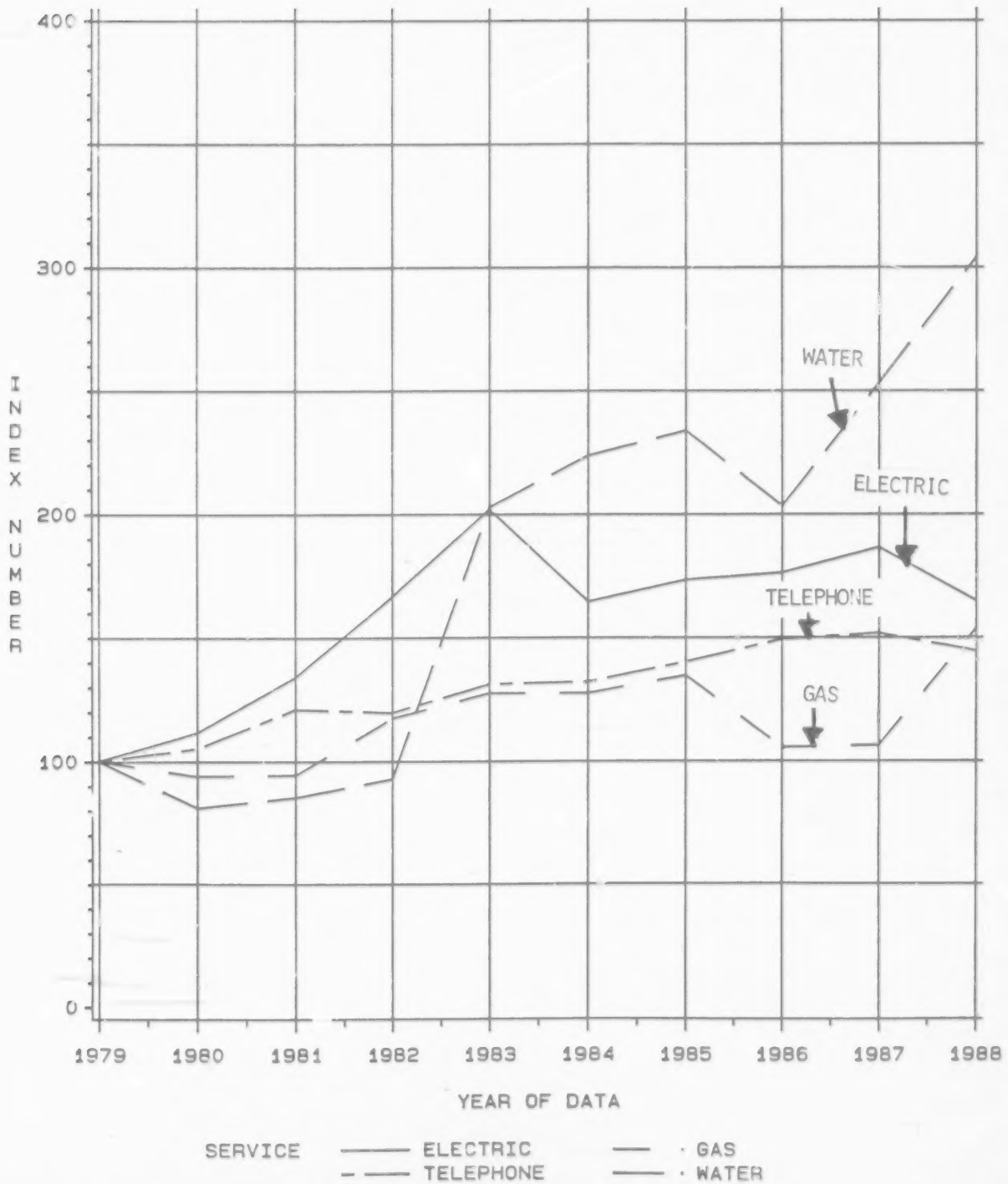


CHART 2

COMPARATIVE TRENDS OF NET OPERATING REVENUES



The number of public utilities operating in the State as of December 31, 1988 is summarized below. These figures include all utilities regardless of size.

	Total	Private	Municipal
Electric	94	12	82
Gas	15	14	1
Telephone	99*	99*	0
Water	556	12	544
Heating	2	1	1
Total	766	138	628

* There are 18 resellers authorized to be alternative telecommunications and five telephone companies offering resale of MTS and WATS within their telephone franchise areas. Three cellular mobile companies which are operating as alternative telecommunications utilities per 05-TI-106. Fourteen are deregulated per s.196.202(2). One is pending application for ATU status and two cable telecommunications.

FINANCIAL STATISTICS

Statistics on plant investment, capitalization and disposition of income are presented in this section of the bulletin. These data necessarily include all operations of Wisconsin utilities, including out-of-state operations of those utilities operating in neighboring states.

A number of municipalities include nonutility sewer operations in their water utility reports. Figures on income and capitalization reflect these operations when reported. It is to be emphasized, however, that sewer coverage presented herein is by no means complete since many municipalities operate their non-utility sewer departments independently and do not report those operations.

Utility Plant in Service and Accumulated Provisions for Depreciation:

Table 1 presents a summary of utility plant in service and accumulated provisions for depreciation of Wisconsin utilities during the period from 1986 through 1988. Charts 3, 4 and 5 show similar data in graphic form over the past 9 years.

About $14.2 billion are invested in utility plant by Wisconsin utilities. Of this amount, electric plant makes up 50.0% with telephone, water and gas plant amounting to 27.9%, 10.4% and 9.8% respectively. Sewer and heating plant make up another 1.5%.

Electric cooperatives and companies engaged in intrastate transmission of natural gas do not fall under the jurisdiction of the Wisconsin Public Service Commission and therefore, data covering these companies are not included in this study. Electric cooperatives did have gross plant investment in Wisconsin of about $762 million as of December 31, 1988. Gas pipeline companies had about $285.1 million in gross plant as of the same date.

Except for water and sewer service, public utility operations in Wisconsin are predominantly under private management. For example, municipalities own and operate 98% of the total water plant but only 4% of the electric plant, about 0.05% of the gas distribution plant and no telephone plant.

As of December 31, 1988, Wisconsin electric utilities had accumulated provisions for depreciation equal to 47% of electric plant in service. Telephone utilities had accumulated 34%, water utilities 22% and gas utilities 48%. The comparable figures in 1979 were 36%, 22%, 20% and 35% respectively.

Charts 3, 4, 5 and 6 show that utility plant in service has increased steadily over the past 9 years. Electric utility plant has increased 68% since 1979. Telephone plant is up 49% while water and gas plant increased 61% and 59% for the period.

Capitalization:

Capitalization of public utilities in Wisconsin is summarized in Table 2 and Charts 7 and 8. Total capitalization was about $8,795 million in 1988. Of that amount 78% was accounted for by private utilities with the remaining 22% being municipal investment.

Total capitalization was up 6.3% over 1987, and up 43% over the past 10 years. Corresponding figures are 6.3% and 36% for private utilities and 6.5 and 77% for municipals. Charts 7 and 8 give graphic representation of these figures.

CHART 3

UTILITY PLANT IN SERVICE
AND ACCUMULATED PROVISION FOR DEPRECIATION
ELECTRIC UTILITIES

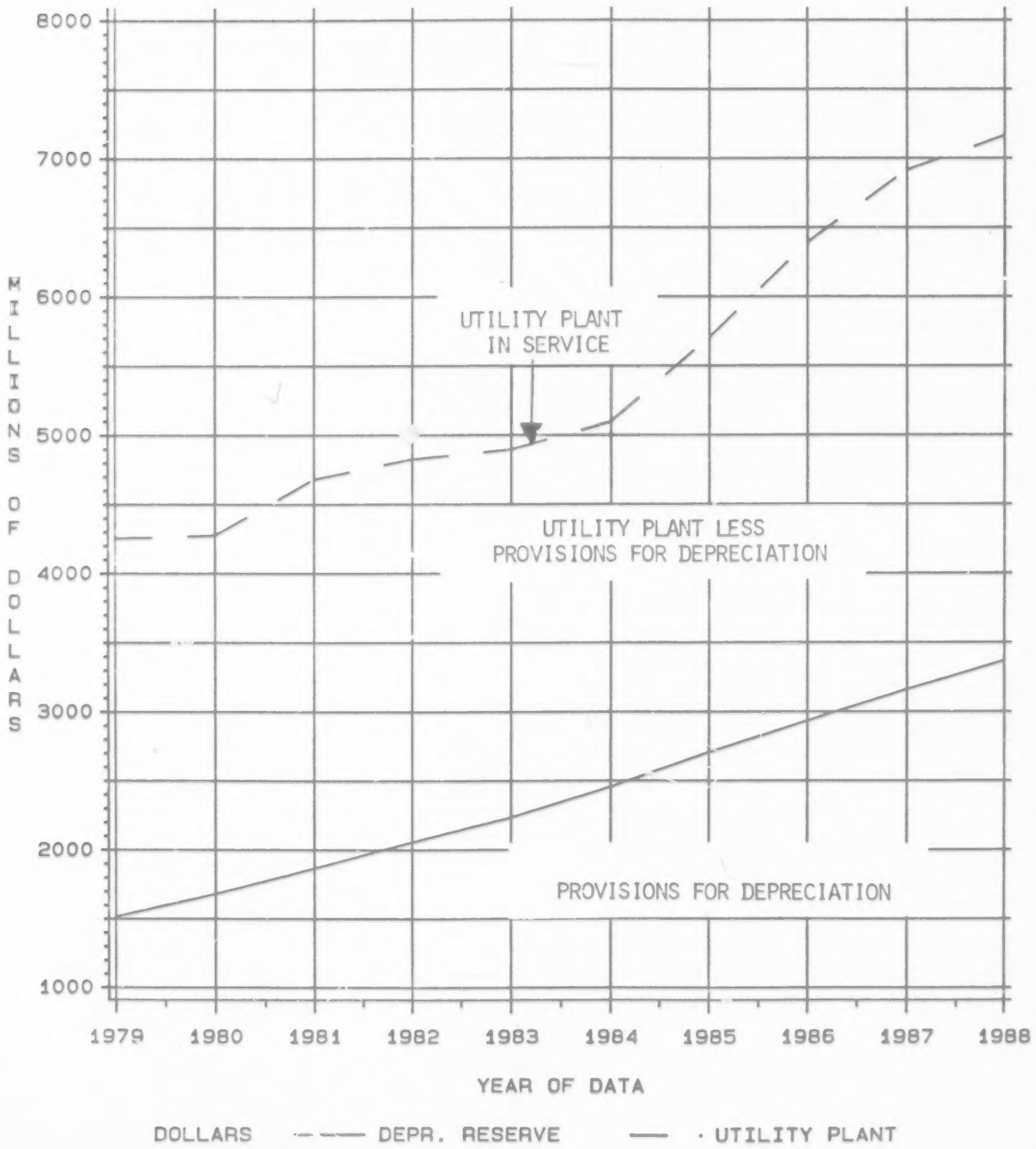


CHART 4

UTILITY PLANT IN SERVICE AND ACCUMULATED PROVISION FOR DEPRECIATION TELEPHONE UTILITIES

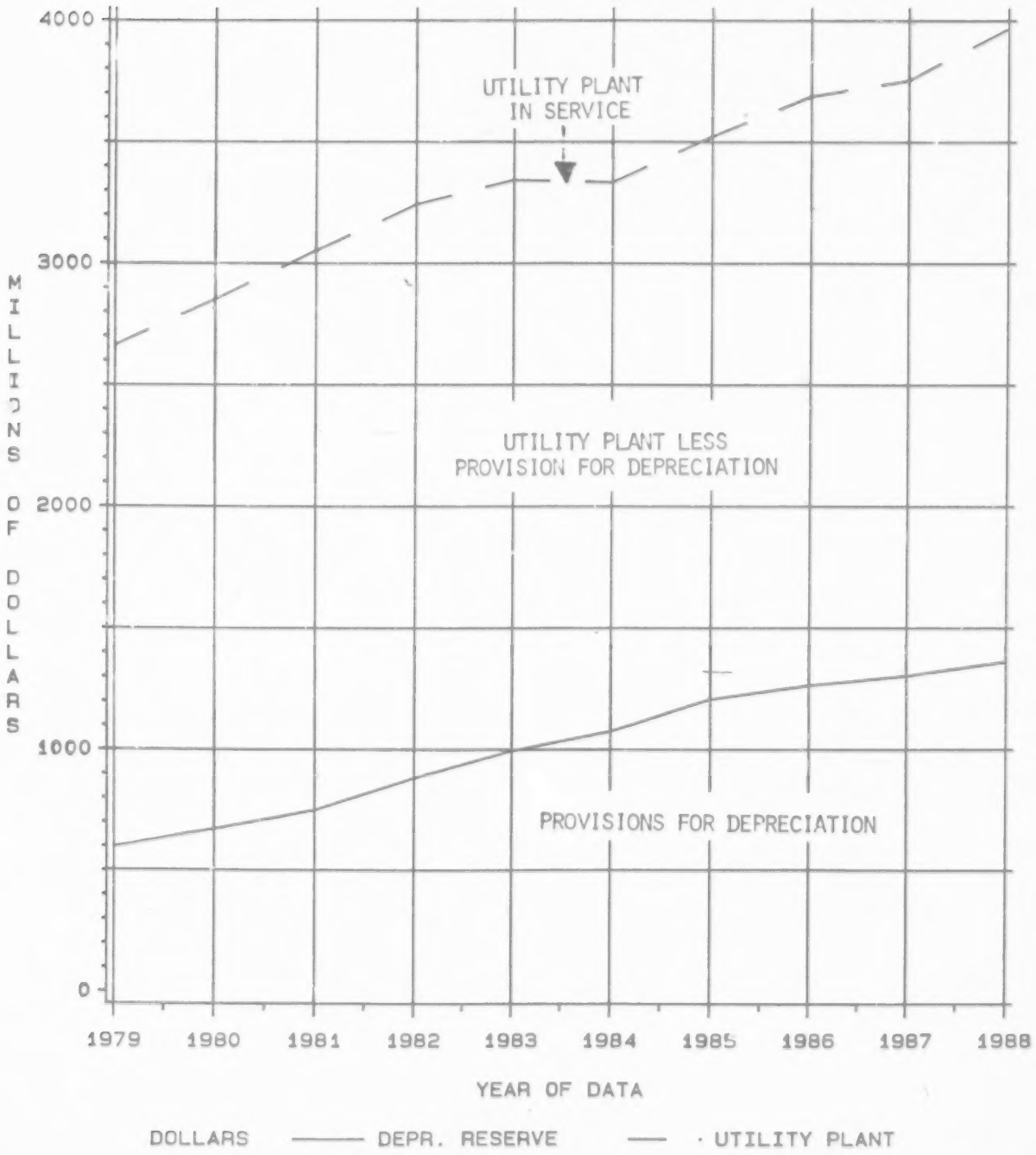


CHART 5

UTILITY PLANT IN SERVICE AND ACCUMULATED PROVISION FOR DEPRECIATION WATER UTILITIES.

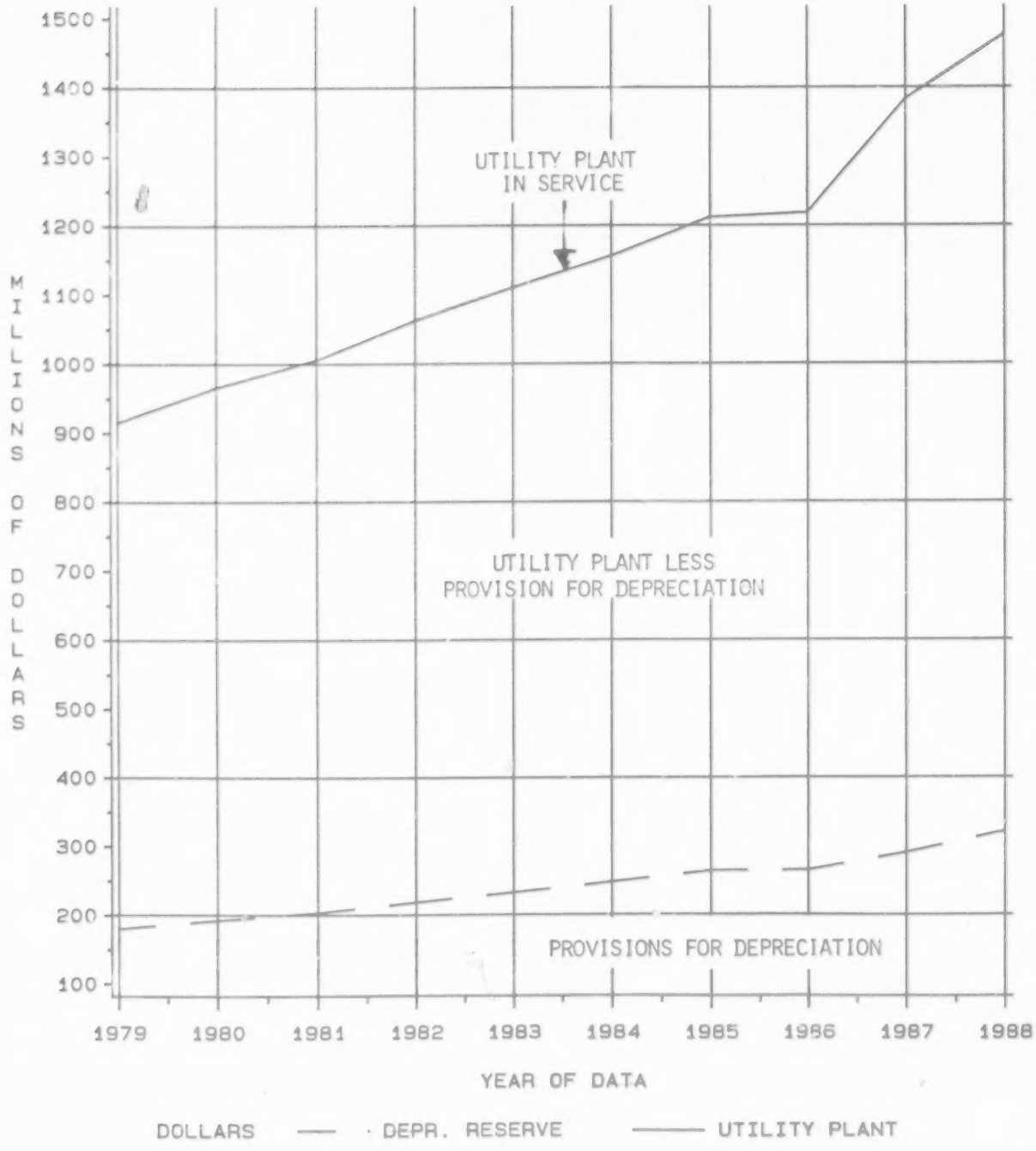


CHART 6

UTILITY PLANT IN SERVICE AND ACCUMULATED PROVISION FOR DEPRECIATION GAS UTILITIES

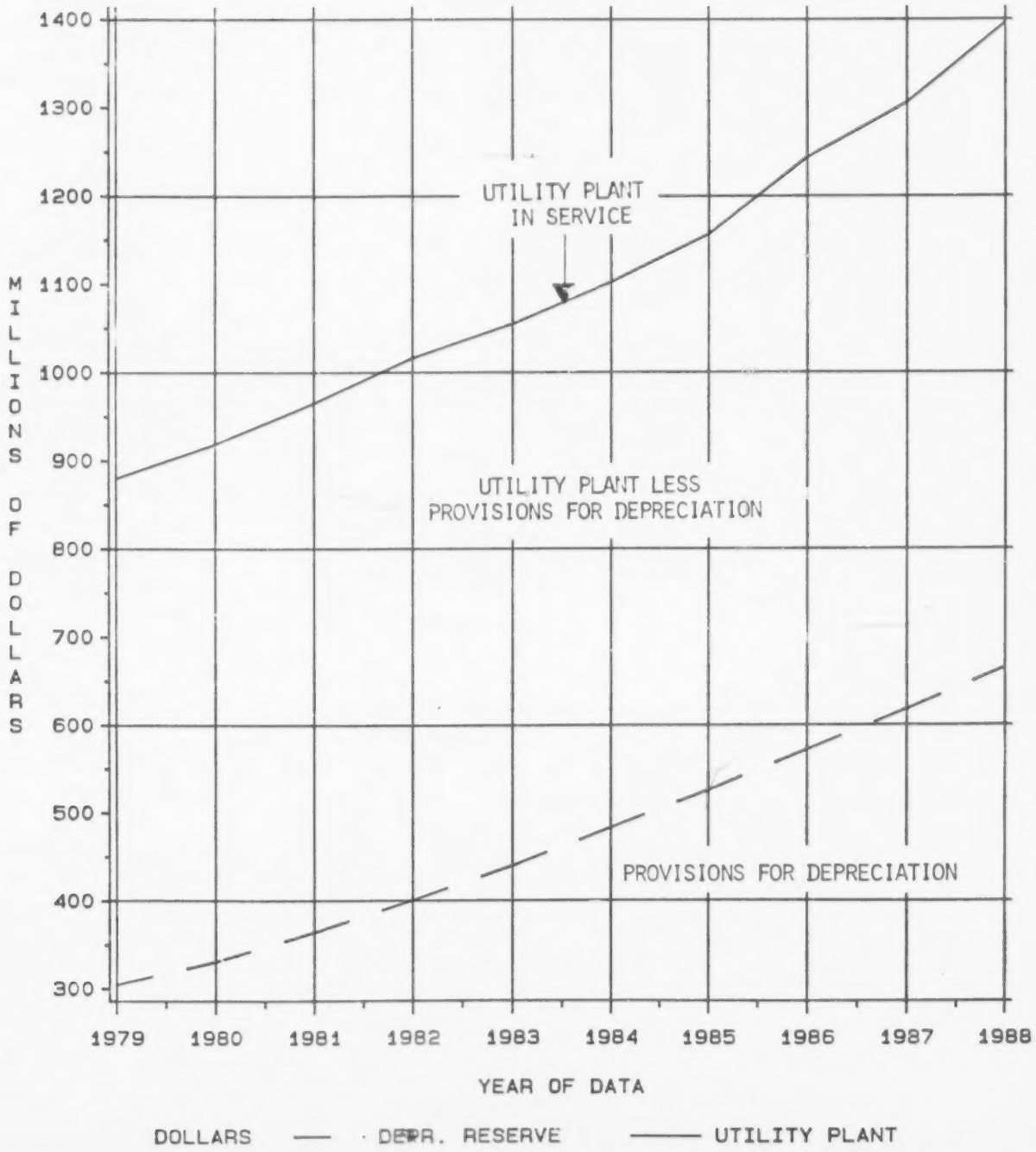


CHART 7

CAPITALIZATION OF PRIVATE UTILITIES OPERATING IN WISCONSIN

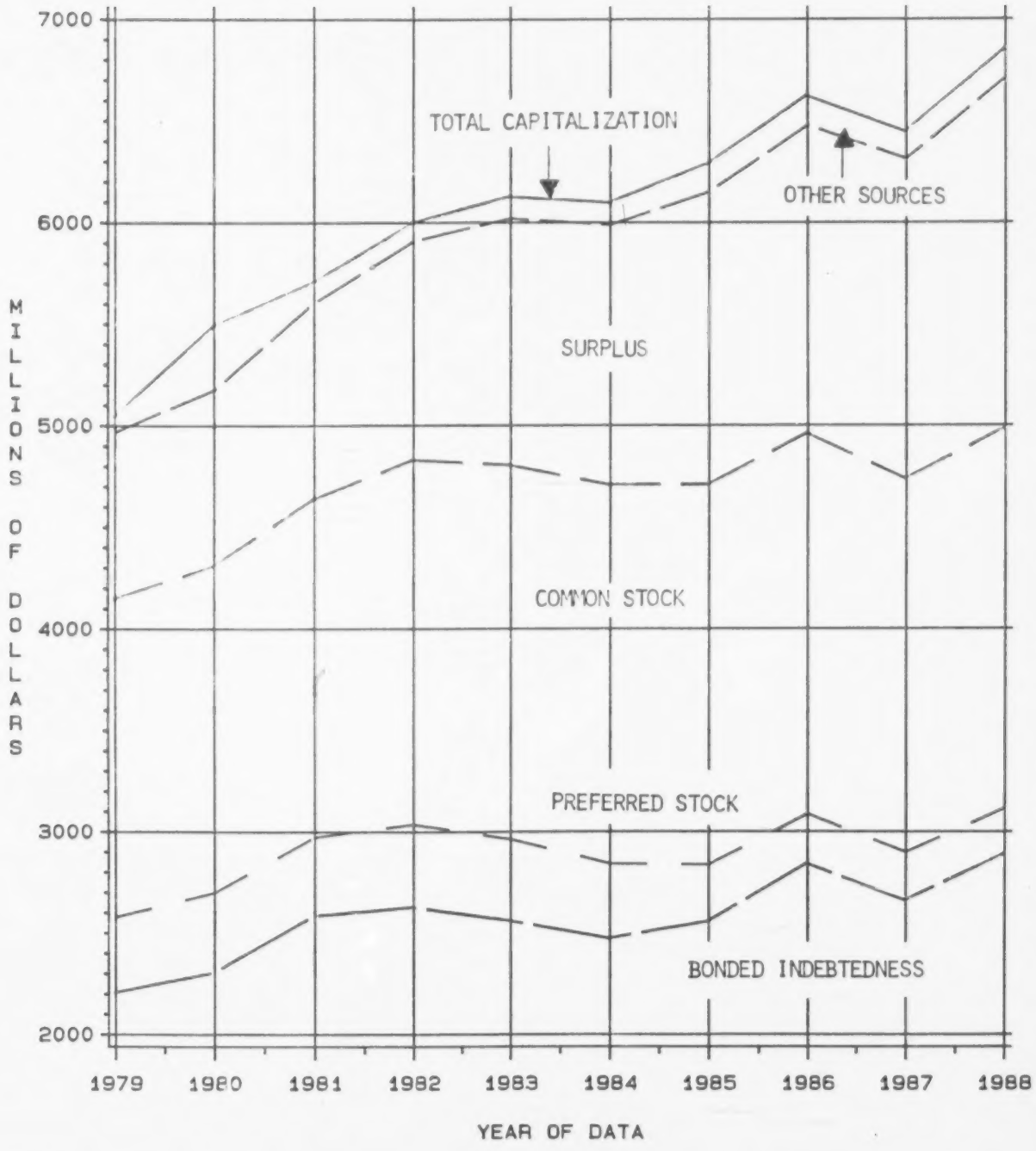


CHART 8

CAPITALIZATION OF MUNICIPAL UTILITIES OPERATING IN WISCONSIN

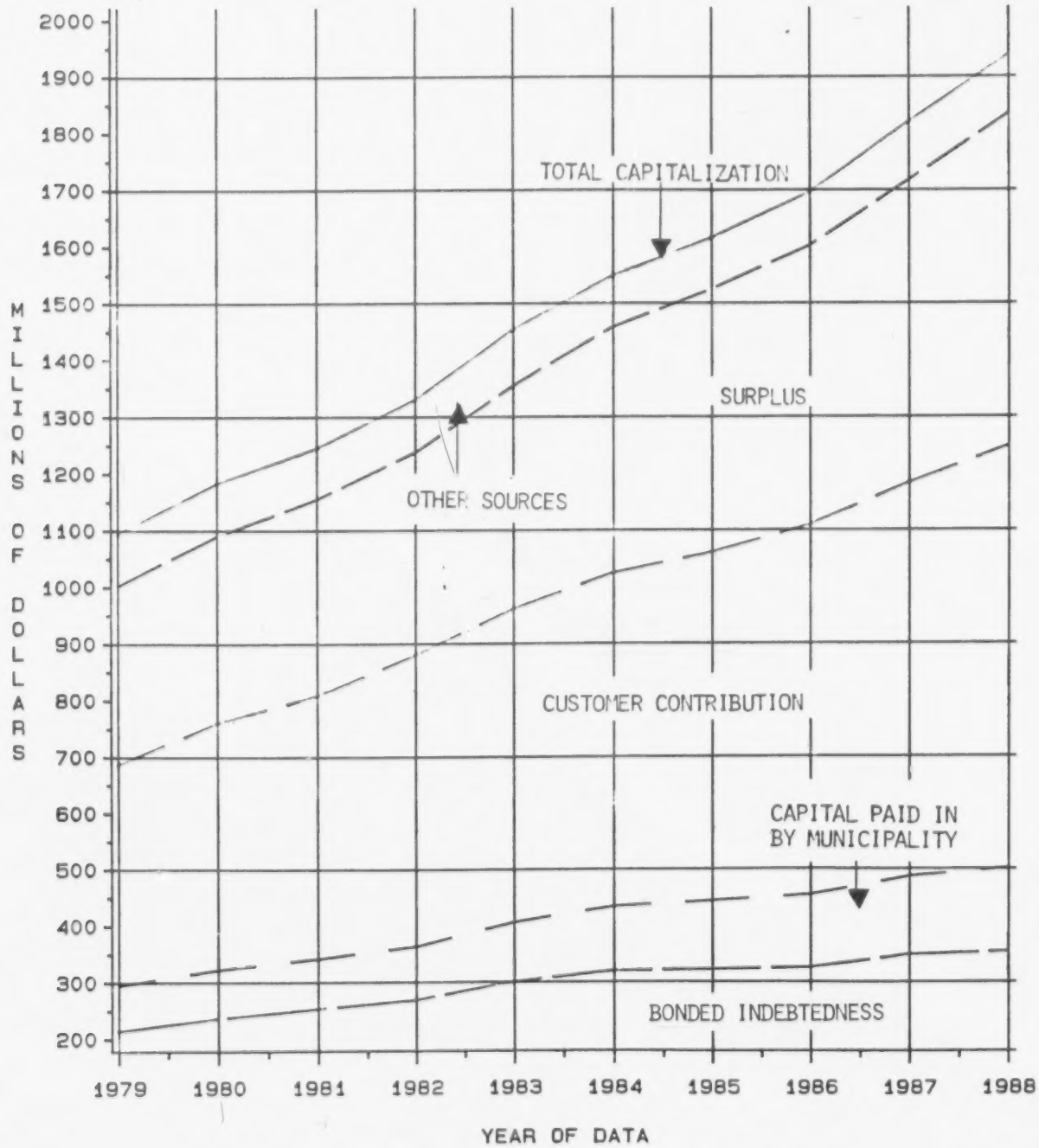


Chart 7 further shows bonds and common stock continue to be the largest source of capital for private utilities. Surplus also contributes a substantial share of total capitalization.

As shown below, Contributions in Aid of Construction is the largest item of municipal utility Capitalization. Surplus and Bonded Debt are next in size Capital Paid in by Municipalities was only about 7.6% of the total at the end of 1988.

A comparison of the capitalization of private and municipal utilities as of December 31, 1988 is presented below:

	Private Utilities	Municipal Utilities
Bonded Indebtedness	42.2%	18.4%
Common Stock or Capital Paid in by Municipality	27.4	7.6
Preferred Stock	3.2	0.0
Surplus	25.1	30.2
Advances from Affiliates or Municipalities	0.0	5.1
Contributions in Aid of Construction	1.6	38.5
Customer Advances in Aid of Construction	0.5	0.2
Total	100.0%	100.0%

Disposition of Income

The term 'gross income' as used here, is a net figure representing total income available to meet interest payments, dividends and similar items. The disposition of gross income is summarized in Table 3 and Charts 9 and 10.

Total gross income of private utilities in Wisconsin totaled $804.5 million in 1988, 5.3% above the preceding year. Interest and related deductions absorbed $252.7 million, preferred stock dividends $14.7 million, dividends on common stock $384.4 million, and $195.3 million were carried to surplus.

Municipal utilities had $78.6 million in gross income in 1988, up 17.2% from the preceding year. Interest and related charges amounted to $34.0 million, $1.0 million were appropriated to municipalities, and $43.5 million were carried to surplus.

Payments during 1988 on each class of security or equity, expressed as a percent of average book values at the beginning and close of the year are compared below:

	Private Utilities	Municipal Utilities
Interest on Long-Term Debt Divided by Long-Term Debt	8.22%	7.40%
Perferred Stock Dividends Divided by Preferred Stocks	6.63	0.00
Common Stock Dividends Divided by Common Stock	20.50	0.00
Appropriations to City Divided by Capital Paid in by Municipality	0.0	0.72
Common Stock Dividends Divided by Common Stock Plus Surplus	10.69	0.00
Appropriations to City Divided by Capital Paid in by Municipality Plus Surplus	0.00	0.14

CHART 9

DISPOSITION OF GROSS INCOME
PRIVATE UTILITIES OPERATING IN WISCONSIN

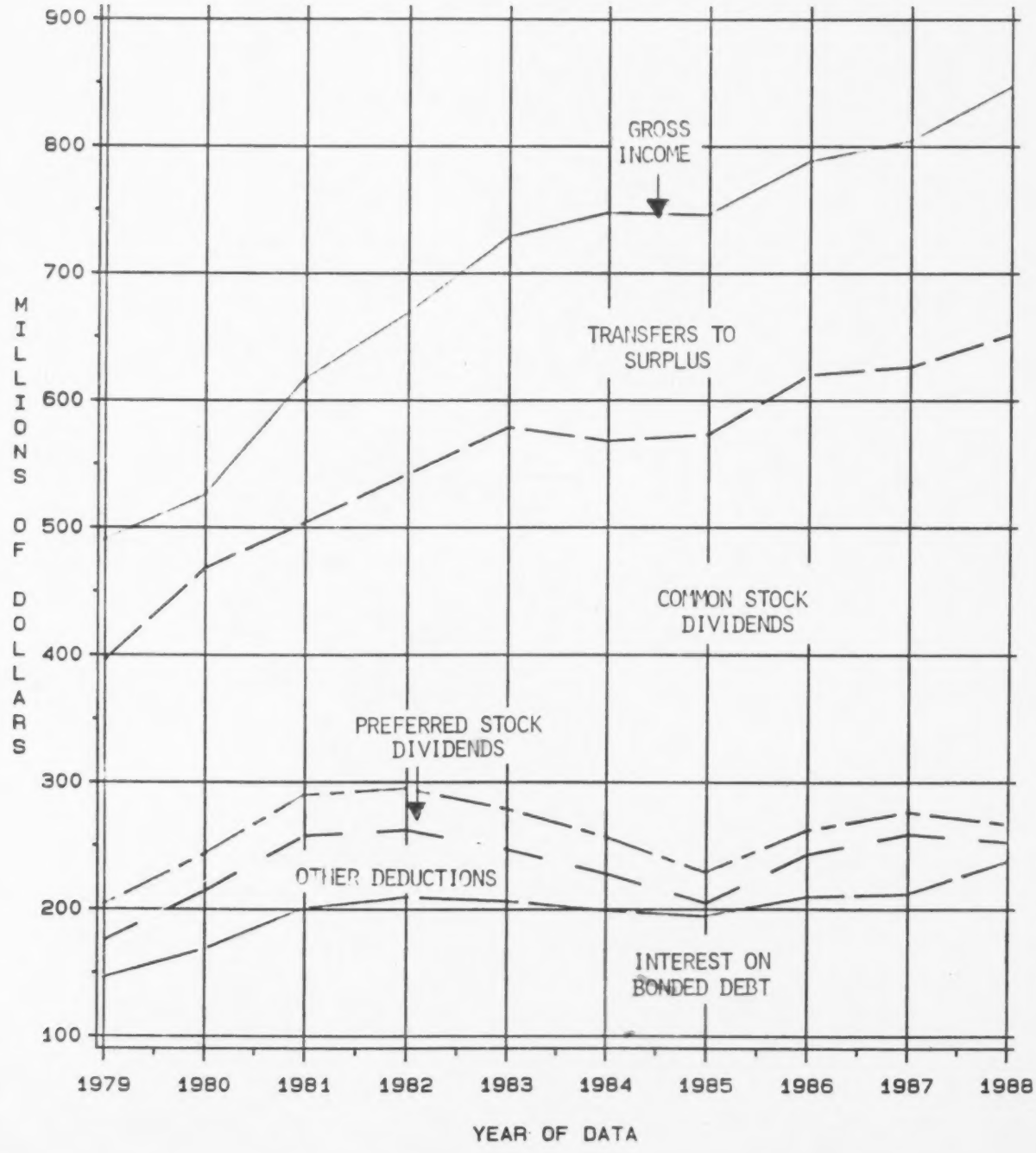


CHART 10

DISPOSITION OF GROSS INCOME
MUNICIPAL UTILITIES OPERATING IN WISCONSIN

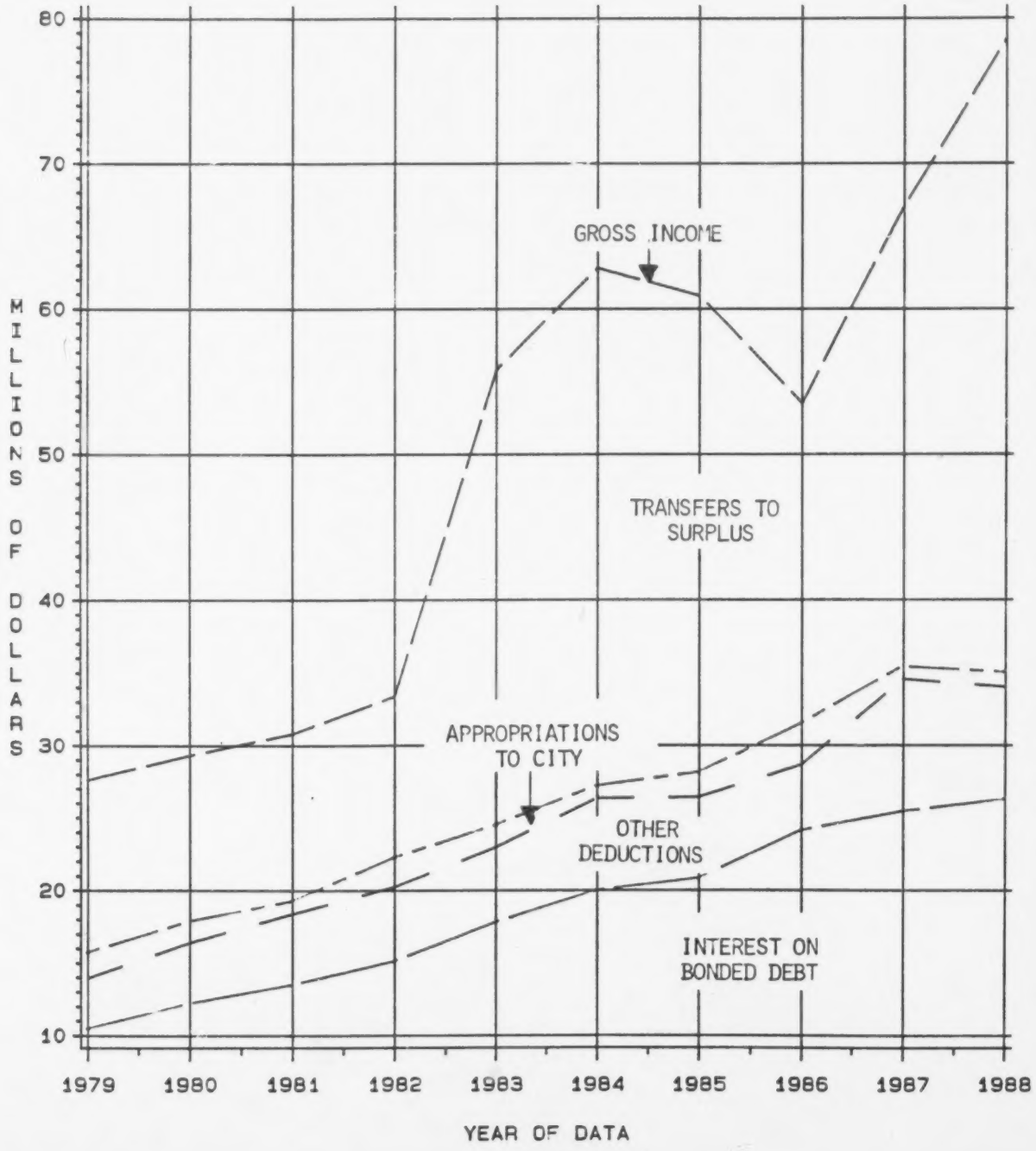


TABLE 1
SUMMARY OF UTILITY PLANT IN SERVICE AND
ACCUMULATED PROVISION FOR DEPRECIATION
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1988-1986

All Utilities	Dec. 31, 1988	Dec. 31, 1987	Dec. 31, 1986
Utility Plant in Service 2/ 3/			
Electric	$ 7,164,185,623	$ 6,915,424,073	$ 6,390,741,879
Gas	1,395,995,774	1,305,865,416	1,243,722,101
Water	1,476,322,656	1,383,417,979	1,218,413,206
Sewer	180,082,116	179,580,359	246,780,185
Telephone	3,967,321,748	3,753,634,010	3,687,800,000
Heating	27,514,060	27,076,140	26,331,551
Total	$14,211,421,977	$13,564,997,977	$12,813,788,922
Accumulated Provision for Depreciation 2/ 3/			
Electric	$ 3,367,723,807	$ 3,160,410,007	$ 2,934,027,443
Gas	665,101,604	617,947,314	571,794,725
Water	321,398,334	290,503,991	264,758,391
Sewer	33,858,771	42,260,391	39,498,665
Telephone	1,361,600,360	1,303,470,397	1,263,400,000
Heating	12,246,408	11,451,485	11,804,001
Total	$ 5,761,929,284	$ 5,426,043,585	$ 5,085,283,225
Utility Plant Less Provision For Depreciation 2/ 3/			
Electric	$ 3,796,461,816	$ 3,755,014,066	$ 3,456,714,436
Gas	730,894,170	687,918,102	671,927,376
Water	1,154,924,322	1,092,913,988	953,654,815
Sewer	146,223,345	137,319,968	207,281,520
Telephone	2,605,721,388	2,450,163,613	2,424,400,000
Heating	15,267,652	15,624,655	14,527,550
Total	$ 8,449,492,693	$ 8,138,954,392	$ 7,728,505,697
Private Utilities			
Utility Plant in Service 2/ 3/			
Electric	$ 6,899,328,139	$ 6,640,687,578	$ 6,120,494,505
Gas	1,395,284,973	1,305,210,143	1,243,087,586
Water	31,801,837	30,163,519	25,068,725
Sewer	0	0	0
Telephone	3,967,321,748	3,753,634,010	3,687,800,000
Heating	27,201,114	26,762,619	26,018,158
Total	$12,320,937,811	$11,756,457,869	$11,102,468,974

TABLE 1 (Concluded)

SUMMARY OF UTILITY PLANT IN SERVICE AND
ACCUMULATED PROVISION FOR DEPRECIATION
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1988-1986

Private Utilities (Cont.)	Dec. 31, 1988	Dec. 31,1987	Dec. 31, 1986
Accumulated Provision for Depreciation 2/ 3/			
Electric	$ 3,234,213,764	$ 3,035,548,463	$ 2,813,754,622
Gas	664,803,641	617,669,659	571,535,933
Water	8,208,632	7,684,454	7,069,349
Sewer	0	0	0
Telephone	1,361,600,360	1,303,470,397	1,263,400,000
Heating	12,185,456	11,397,706	11,758,010
Total	$ 5,281,011,853	$ 4,975,770,679	$ 4,667,517,914
Utility Plant Less Provision For Depreciation 2/ 3/			
Electric	$ 3,665,114,375	$ 3,605,139,115	$ 3,306,739,883
Gas	730,481,332	687,540,484	671,551,653
Water	23,593,205	22,479,065	17,999,376
Sewer	0	0	0
Telephone	2,605,721,388	2,450,163,613	2,424,400,000
Heating	15,015,658	15,364,913	14,260,148
Total	$ 7,039,925,958	$ 6,780,687,190	$ 6,434,951,060
Municipal Utilities			
Utility Plant in Service 2/			
Electric	$ 264,857,484	$ 274,736,495	$ 270,247,374
Gas	710,801	655,273	634,515
Water	1,444,520,819	1,353,254,460	1,193,344,481
Sewer	180,082,116	179,580,359	246,780,185
Heating	312,946	313,521	313,393
Total	$ 1,890,484,166	$ 1,808,540,108	$ 1,711,319,948
Accumulated Provision for Depreciation 2/			
Electric	133,510,043	$ 124,861,544	$ 120,272,821
Gas	297,963	277,655	258,792
Water	313,189,702	282,819,537	257,689,042
Sewer	33,858,771	42,260,391	39,498,665
Heating	60,952	53,779	45,991
Total	$ 480,917,431	$ 450,272,906	$ 417,765,311
Utility Plant Less Provision for Depreciation 2/			
Electric	$ 131,347,441	$ 149,874,951	$ 149,974,553
Gas	412,838	377,618	375,723
Water	1,131,331,117	1,070,434,923	935,655,439
Sewer	146,223,345	137,319,968	207,281,520
Heating	251,994	259,742	267,402
Total	$ 1,409,566,735	$ 1,358,267,202	$ 1,293,554,637

1/ Total plant includes out-of-state properties.
2/ Including apportionment of common property.
3/ Excluding utility plant leased to others.

TABLE 2

COMPARATIVE STATEMENT OF CAPITALIZATION
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1988-1986

	Dec. 31, 1988	Dec. 31,1987	Dec. 31, 1986
All Utilities			
Long-Term Debt Outstanding	$ 3,249,749,366	$ 3,015,128,010	$ 3,173,780,135
Advances from Affiliates or Municipality	99,853,110	99,456,786	111,211,671
Preferred Stock Outstanding	221,467,900	232,637,800	239,534,320
Common Stock Outstanding and Related Accounts	1,874,877,081	1,844,948,758	1,880,459,696
Capital Paid in by Municipality	146,371,712	136,767,507	126,758,156
Surplus	2,306,076,513	2,104,431,826	2,003,892,397
Customers' Advances in Aid of Construction	37,601,306	32,564,700	28,671,084
Contributions in Aid of Construction	858,873,160	804,897,516	760,348,795
Total	$ 8,794,870,148	$ 8,270,832,903	$ 8,324,656,254
Private Utilities			
Long-Term Debt Outstanding	$ 2,893,974,439	$ 2,664,985,091	$ 2,846,439,763
Advances from Affiliates	13,500	11,500	20,005,000
Preferred Stock Outstanding	221,467,900	232,637,800	239,534,320
Common Stock Outstanding and Related Accounts	1,874,877,081	1,844,948,758	1,880,459,696
Surplus	1,720,516,309	1,570,250,434	1,511,923,562
Customers' Advances in Aid of Construction	33,654,313	29,670,767	25,854,039
Contributions in Aid of Construction	111,533,652	107,750,104	104,481,697
Total	$ 6,856,037,194	$ 6,450,254,454	$ 6,628,698,077
Municipal Utilities			
Long-Term Debt Outstanding	$ 355,774,927	$ 350,142,919	$ 327,340,372
Advances from Municipality	99,839,610	99,445,286	91,206,671
Capital Paid in by Municipality	146,371,712	136,767,507	126,758,156
Surplus	585,560,204	534,181,392	491,968,835
Customers' Advances in Aid of Construction	3,946,993	2,893,933	2,817,045
Contributions in Aid of Construction	747,339,508	697,147,412	655,867,098
Total	$ 1,938,832,954	$ 1,820,578,449	$ 1,695,958,177

1/ These data necessarily represent total company figures. A few companies operate outside of Wisconsin. Electric, gas, water, sewer, heating and telephone utilities are included.

TABLE 3

DISPOSITION OF INCOME
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1988-1986

	1988	1987	1986
All Utilities			
Net Operating Revenues			
Electric	$458,652,911	$448,937,730	$412,920,969
Gas	86,456,290	60,867,449	61,448,213
Telephone	250,602,756	263,096,658	258,720,180
Water	41,617,625	34,659,397	27,819,199
Sewer	3,202,112	2,721,058	1,858,216
Steam and Hot Water Heating	1,481,620	817,078	1,259,972
Total	$842,013,314	$811,099,370	$764,026,749
Income from Plant Leased to Others	$ 443,861	$ 14,621	$ 8,439
Income from Merchandising and Jobbing	158,832	156,289	298,870
Other Income - Net	83,069,204	60,306,859	77,798,232
Gross Income	$925,685,211	$871,577,139	$842,132,290
Interest on Long-Term Debt	$264,287,870	$238,086,911	$234,399,311
Amortization of Debt Discount and Premium	4,278,272	3,345,214	2,836,131
Interest on Debt to Associated Companies or City	6,451,618	6,496,183	9,566,891
Other Deductions	11,738,964	45,619,891	24,900,564
Net Income	$638,928,487	$578,028,940	$570,429,393
Dividend Appropriations on Preferred Stock	$ 14,679,763	$ 17,965,529	$ 19,516,256
Dividend Appropriations on Common Stock 2/	384,371,248	349,358,768	357,540,268
Appropriations to City	1,057,871	913,191	2,863,974
Balance Transferred to Surplus	$238,819,605	$209,791,452	$190,508,895

(Continued)

TABLE 3 (Continued)

DISPOSITION OF INCOME
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1988-1986

	1988	1987	1986
Private Utilities			
Net Operating Revenues			
Electric	$447,545,427	$438,633,137	$405,647,466
Gas	86,414,549	60,878,010	61,450,170
Telephone	250,602,756	263,096,658	258,720,180
Water	2,219,156	2,343,695	1,357,420
Sewer	0	0	0
Steam and Hot Water Heating	1,471,626	821,781	1,258,926
Total	$788,253,514	$765,773,281	$728,434,162
Income from Plant Leased to Others	$ 440,092	$ 13,221	$ 7,539
Income from Merchandising and Jobbing	(37,722)	(81,795)	14,746
Other Income - Net	58,467,827	38,817,052	60,207,284
Gross Income	$847,123,711	$804,521,759	$788,663,731
Interest on Long-Term Debt	$237,966,449	$212,599,615	$210,223,272
Amortization of Debt Discount and Premium	3,200,174	2,401,247	1,855,118
Interest on Debt to Associated Companies	836,263	1,209,667	4,145,188
Other Deductions	10,740,623	42,784,291	26,801,984
Net Income	$594,380,202	$545,526,939	$545,638,169
Dividend Appropriations on Preferred Stock	$ 14,679,763	$ 17,965,529	$ 19,516,256
Dividend Appropriations on Common Stock 2/	384,371,248	349,358,768	357,540,268
Balance Transferred to Surplus	$195,329,191	$178,202,642	$168,581,645

TABLE 3 (Concluded)

DISPOSITION OF INCOME
PUBLIC UTILITIES OPERATING IN WISCONSIN 1/
1988-1986

	1988	1987	1986
Municipal Utilities			
Net Operating Revenue			
Electric	$11,107,484	$10,304,593	$ 7,273,503
Gas	41,741	(10,561)	(1,957
Water	39,398,469	32,315,702	26,461,779
Sewer	3,202,112	2,721,058	1,858,216
Steam and Hot Water Heating	9,994	(4,703)	1,046
Total	$53,759,800	$45,326,089	$35,592,587
Income from Plant Leased to Others	$ 3,769	$ 1,400	$ 900
Income from Merchandising and Jobbing	96,554	238,084	284,124
Other Income - Net	24,601,377	21,489,807	17,590,948
Gross Income	$78,561,500	$67,055,380	$53,468,559
Interest on Long-Term Debt	$26,321,421	$25,487,296	$24,176,039
Amortization of Debt Discount and Premium	1,078,098	943,967	981,013
Interest on Debt to City	5,615,355	5,286,516	5,421,703
Other Deductions	998,341	2,835,600	(1,901,420
Net Income	$44,548,285	$32,502,001	$24,791,224
Appropriations to City	$ 1,057,871	$ 913,191	$ 2,863,974
Balance Transferred to Surplus	$43,490,414	$31,588,810	$21,927,250

1/ Includes out-of-state operations of Wisconsin utilities.
2/ Excluding Stock Dividends.

ELECTRIC UTILITY STATISTICS

Comparative statistics of Wisconsin electric utilities for the 3-year period, 1986 to 1988, are summarized in this section. Out-of-state operations are excluded (except in tables 7, 8 and 9 where data on out-of-state sales, purchases and generating plant are presented).

The following tables and charts present the data covering electric utility operations

Table 4 - Comparative Statement of Revenues and Expenses, 1988-1986
Table 5 - Sales to Ultimate Consumers, 1988-1986
Table 6 - Comparative Statement of Operating Expenses, 1988-1986
Table 7 - Summary of Megawatt Hours Sold and Used, 1988-1986
Table 8 - Megawatt Hours Generated and Purchased, 1988-1986
Table 9 - Generating Plant, Substation and Transmission Line Data, 1988-1986
Table 10 - Condensed Summary of 1988 Operations - Individual Private Electric Utilities
Table 11 - Condensed Summary of 1988 Operations - Individual Municipal Electric Utilities
Chart 11 - Residential Electric Customers - Annual Kilowatt Hour Sales Wisconsin and United States, 1979-1988
Chart 12 - Residential Electric Customers - Revenue per Kilowatt Hour Wisconsin and United States, 1979-1988
Chart 13 - Residential Electric Customers - Average Annual Bill Wisconsin and United States, 1979-1988
Chart 14 - Comparison of Revenues and Expenses, Wisconsin Electric Utilities, 1979-1988
Chart 15 - Revenues from Sales to Ultimate Consumers by Individual Wisconsin Electric Utilities, Percent of Total, 1988

Electric Consumers

The total number of ultimate (retail) electric consumers increased 1.39% over 1987. Residential customers increased 1.67% and rural customers decreased (2.18)%. Commercial and industrial customers increased 1.78%.

As has already been pointed out, electric cooperatives are not included in the tables. These organizations served an estimated 174,437 customers during 1988. This was 54% of all rural electric customers served in the state.

Revenue and Consumption Ratios

Kilowatt hours sold to ultimate consumers in Wisconsin increased 5.21% during 1987. Commercial and industrial consumption increased 6.67% during the year as did residential at 7.09%. Rural consumption decreased 0.65% for the same period.

State-wide averages by class of service for revenue/megawatt hour are compared below:

	1988	1987	1986
Residential	$66.13	$66.58	$68.00
Commercial and Industrial	48.26	49.36	51.60
Rural	63.06	63.72	64.93
Public St. and Hwy. Lighting	73.99	72.48	72.27
Other Sales to Public Auth.	46.32	47.63	50.67
Interdepartmental Sales	50.09	49.86	51.80
Total Ultimate Consumers	$54.04	$54.95	$57.06

22. State-wide average ratios of kilowatt hour consumption per customer and revenue per customer are compared below for the three major classes of service:

	1988	1987	1986
Average Annual Use (kWh)			
Residential	7,599	7,215	7,121
Commercial and Industrial	142,619	136,089	130,524
Rural	14,540	14,133	14,328
Average Annual Bill			
Residential	$ 502.53	$ 480.39	$ 484.26
Commercial and Industrial	6,882.54	6,717.32	6,735.50
Rural	916.88	900.57	930.40

Average annual use for residential customers increased by 5.32%, commercial and industrial increased by 4.80% and rural decreased by 2.88%. Average annual bills for residential customers decreased by 4.61%. Commercial and industrial bills and rural bills decreased 2.46% and 1.81% respectively.

Residential revenue and consumption ratios of Wisconsin utilities are compared with national averages over a 9-year period in Charts 11, 12, and 13. In 1988 the average Wisconsin residential customer consumed 19.6% fewer kilowatt hours and paid an average bill that was 29.0% less than the national average.

Electric Utility Income Account

A summary of the income account of Wisconsin electric utilities for the past three years is presented in Table 4. A 9-year graphic comparison is made in Chart 14

Operating revenues continue to rise steadily with 1988 revenues up 4.90% over 1987. Total operating expenses increased 8.33% and net operating revenues increased by 11.74%.

Table 6 presents a detailed analysis of operating expenses, exclusive of depreciation and taxes. Of the classes of expense shown, sales promotion had the greatest increase which was 20.18%. Customer Accounts was least with a (4.47)% decrease.

A comparison of certain expense ratios of private and municipal utilities in 1988 is presented below:

	1988 Expense Ratios					
	Per Dollar of Revenue		Per Average Customer		Per MWh Sold	
	Pvt.(Ct)	Mun.(Ct)	Pvt.	Mun.	Pvt.	Mun.
Production and Trans.	48.02	77.72	$ 657.36	$ 920.65	$ 29.04	$ 38.66
Distribution	5.73	3.51	78.49	41.52	3.47	1.75
Customer Accounts	2.24	1.42	30.59	16.87	1.35	0.71
Customer Services	2.05	0.00	28.11	0.00	1.24	0.00
Sales Promotion 1/	0.05	0.04	0.73	0.52	0.03	0.02
Admin. & General	7.13	4.67	97.65	55.29	4.32	2.32
Total Oper. and Main.	65.22	87.36	892.93	1,034.85	39.45	43.46
Depreciation	10.22	4.40	139.90	52.08	6.18	2.19
Taxes O/T Inc. Taxes	4.52	3.53	61.85	41.75	2.73	1.75
Income Taxes	4.74	0.00	64.85	0.00	2.87	0.00
Total Operating Exp.	84.70	95.29	$1,159.53	$1,128.68	$ 51.23	$ 47.40

1/ Includes customer service expenses for municipally owned utilities.

CHART 11
ANNUAL KILOWATT HOUR SALES
RESIDENTIAL ELECTRIC CUSTOMERS

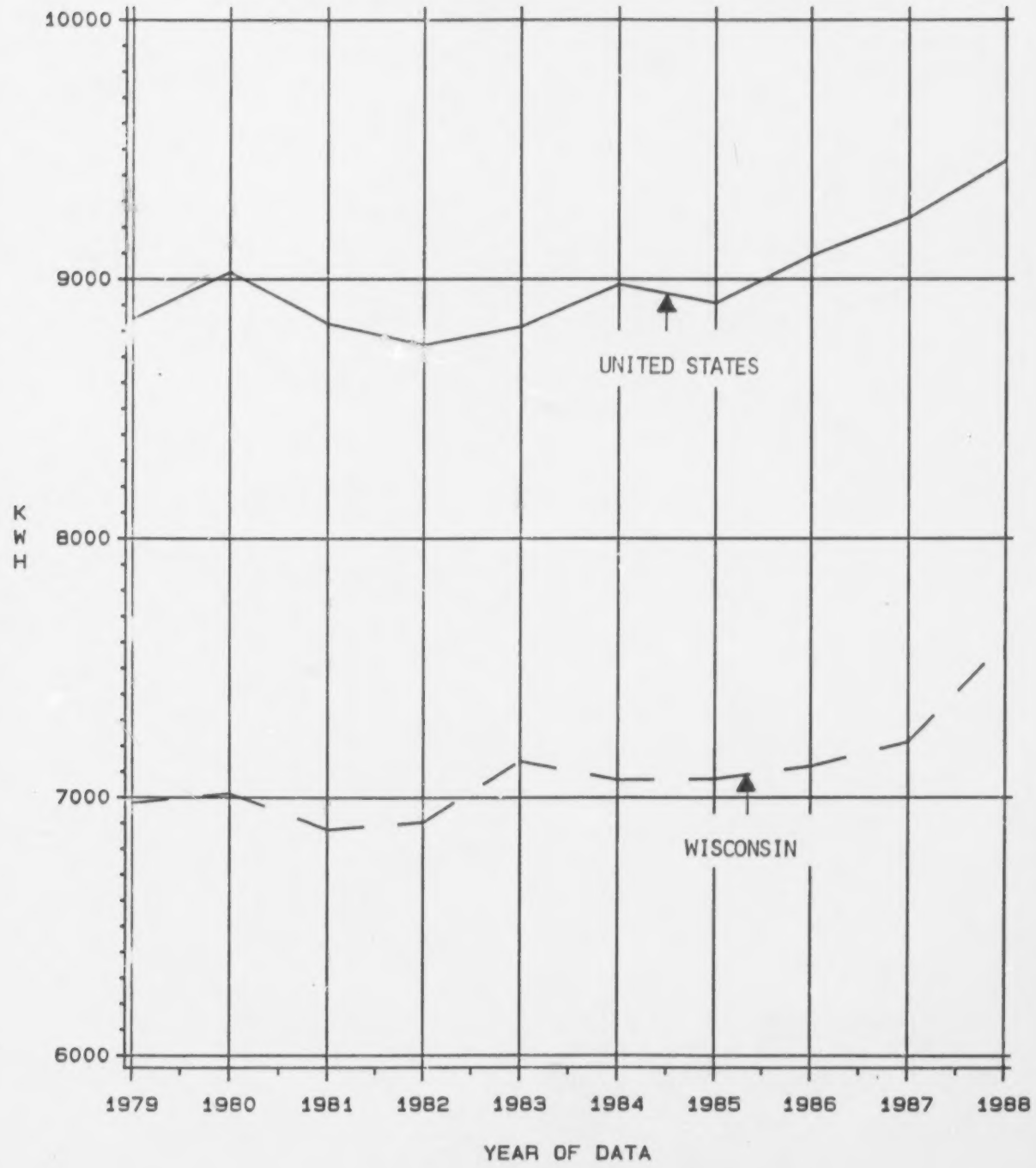


CHART 12

REVENUE PER KILOWATT HOUR
RESIDENTIAL ELECTRIC CUSTOMERS

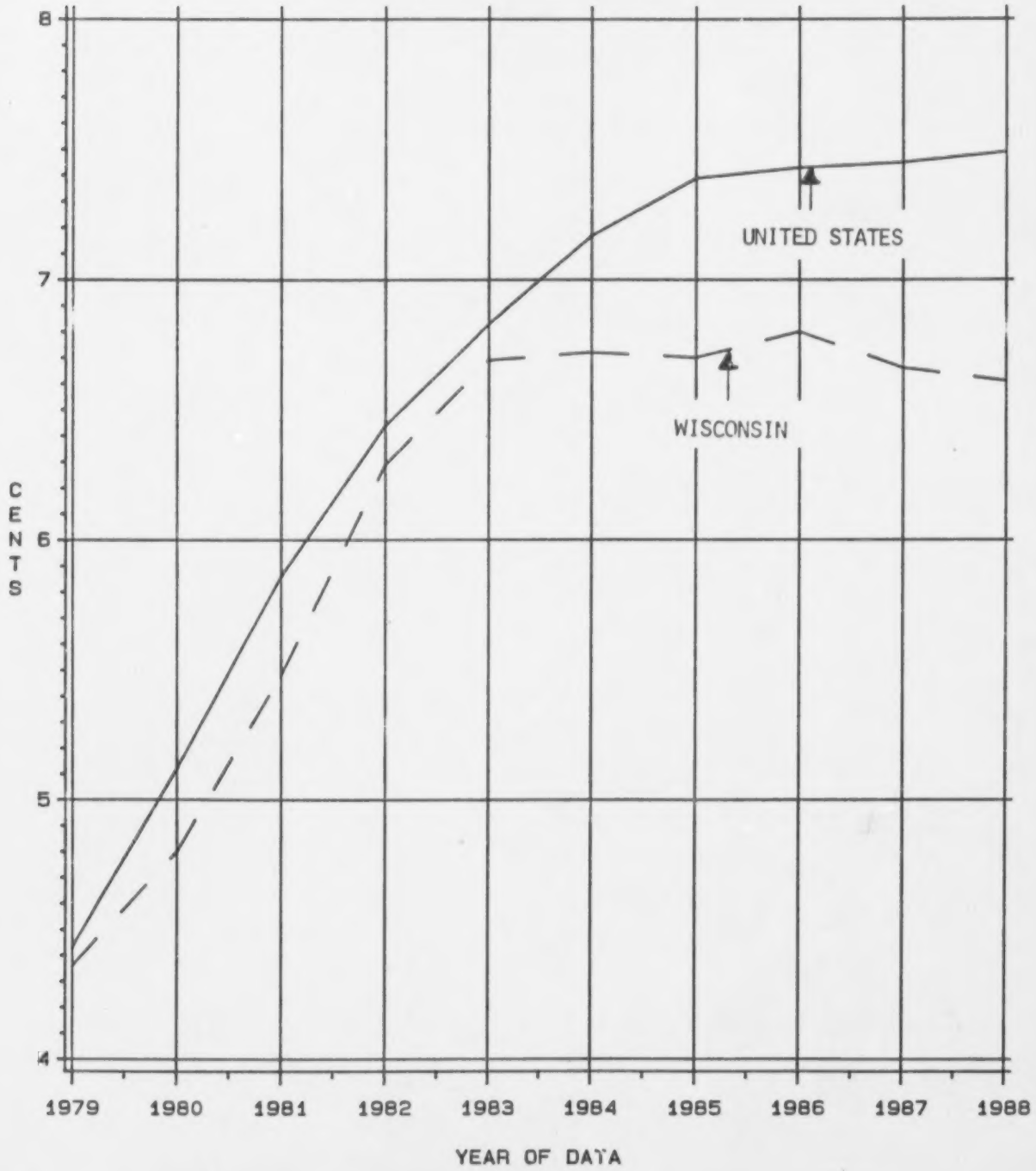


CHART 13
AVERAGE ANNUAL BILL
RESIDENTIAL ELECTRIC CUSTOMERS

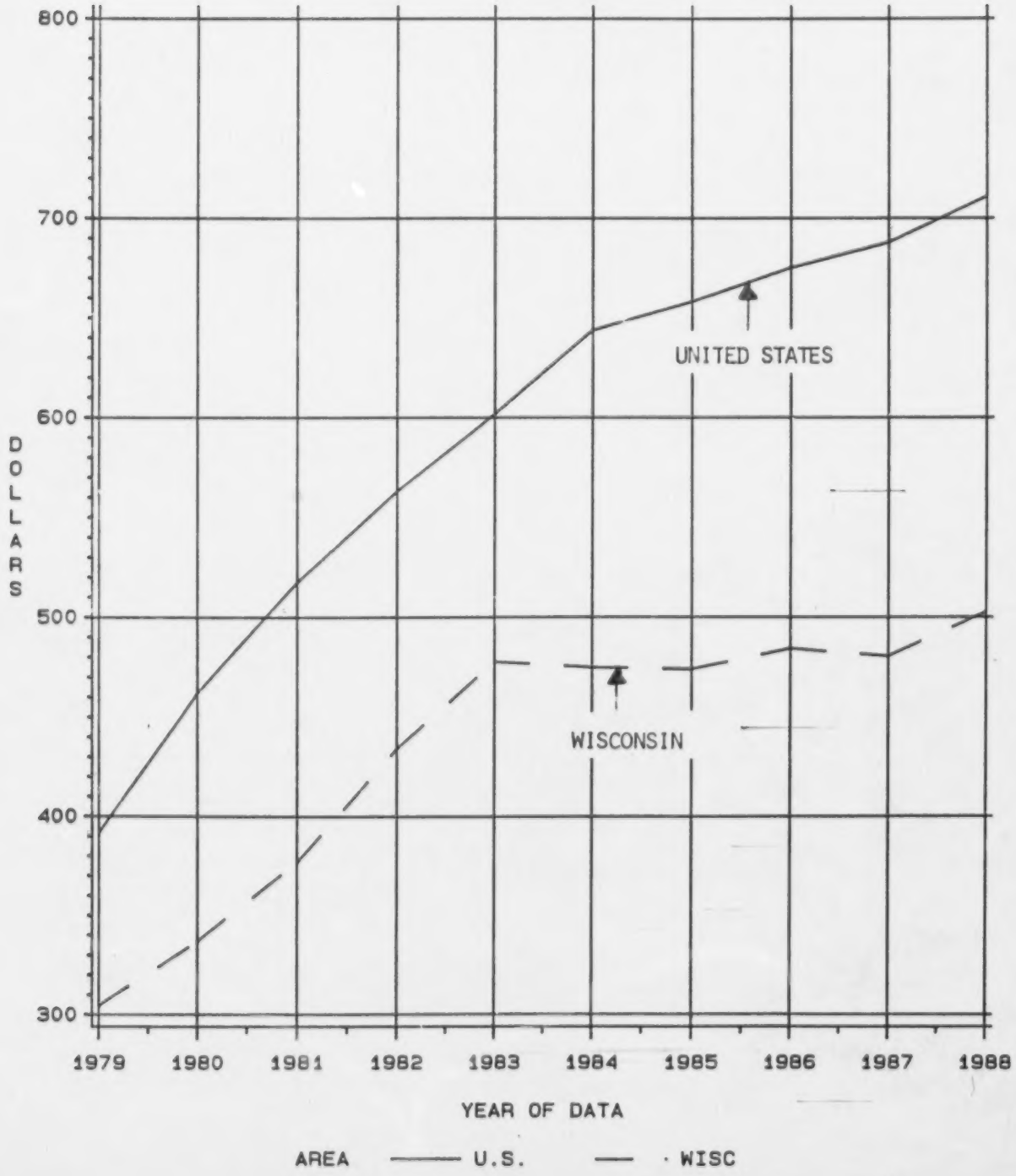
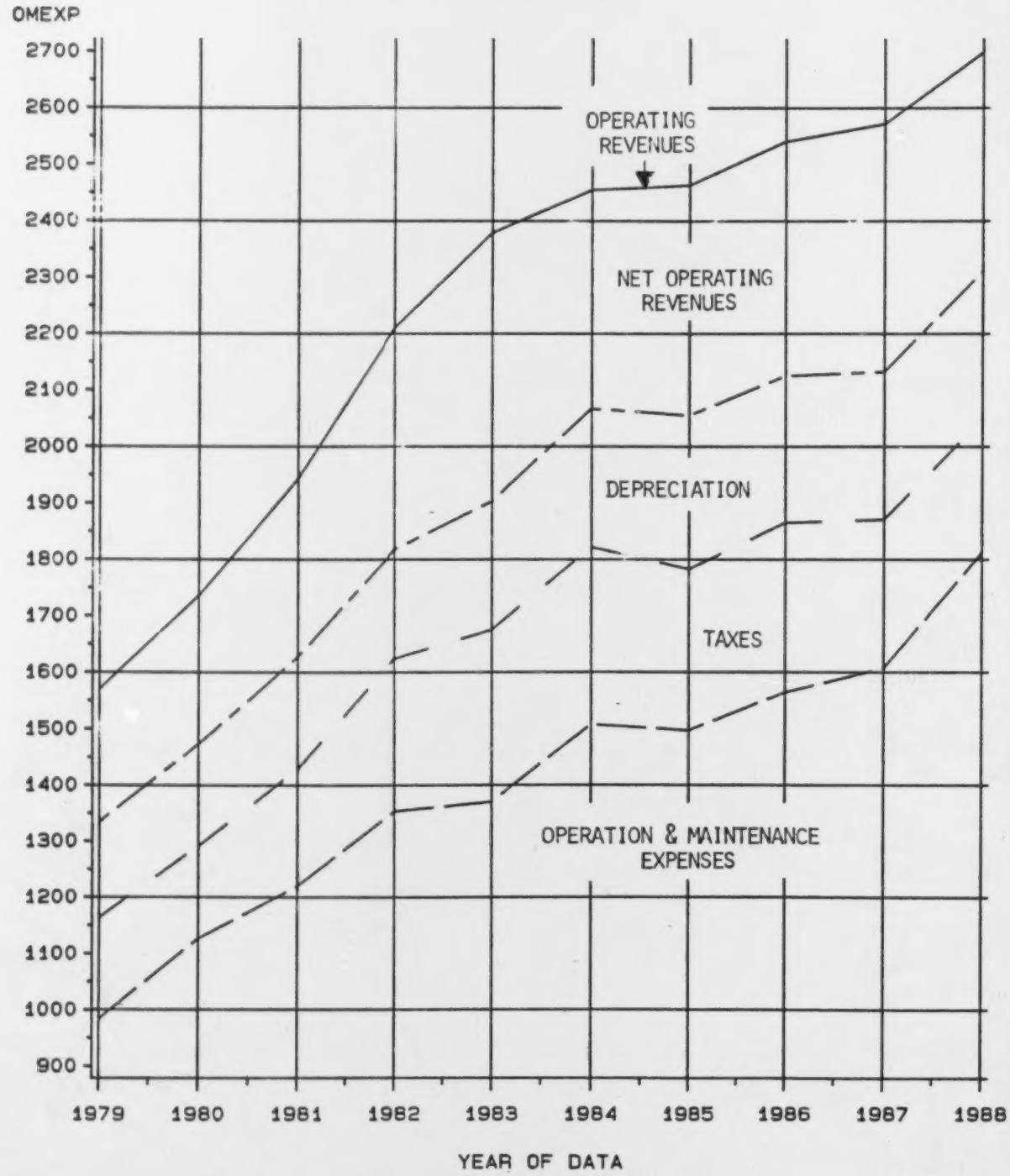


CHART 14

WISCONSIN ELECTRIC UTILITIES REVENUES AND EXPENSES



In addition to the above breakdown of operating expenses, Table 6 presents the detail of production expense on a company-wide basis. If this breakdown is related to corresponding data on generation and purchases, the following comparison of costs per megawatt hour, exclusive of fixed charges, results:

	Production Expense* Per Megawatt Hour Generated or Purchased 1988	
	Private Utilities	Municipal Utilities
Steam Plants-Nuclear Fuel	$ 14.32	$ 0.00
Steam Plants-Fossil Fuel	22.06	48.33
Hydro Electric Plants	13.45	3.41
Internal Combustion (Recip. & Turbine)	98.89	155.30
Purchased Energy	23.77	36.94

*Excludes depreciation, taxes, and return.

Kilowatt Hours Generated and Purchased; Fuel Consumed

The sources of energy of Wisconsin electric utilities are summarized in Table 8. The net generation by plants located in Wisconsin is compared below on a percentage basis over a period of ten years:

	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Steam-Nuclear	24.9%	27.9%	28.5%	28.3	28.2%	25.7%	30.3%	30.1%	29.7%	34.3%
Steam-Fossil	71.7	69.1	66.7	66.5	66.9	67.0	63.9	64.5	62.9	58.1
Hydro	3.2	2.9	4.8	5.2	4.8	7.1	5.6	4.8	5.0	5.1
Int. Comb.-Recip.	1/	1/	1/	1/	1/	1/	1/	1/	0.1	0.2
Int. Comb.-Turbine	0.2	0.1	1/	1/	0.1	0.2	0.2	0.6	2.3	2.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

During the ten years covered, fossil steam generating plants have produced a major portion of the State's electric energy, varying from a high of 71.7% in 1988 to a low of 62.9% in 1979. Privately owned utilities generated 99.2% of total energy produced by utilities in 1988.

Fuel consumption ratios over the past five years are presented below:

	1988	1987	1986	1985	1984
BTU's of Fuel Used in Nuclear Steam Plants Per kWh Generated (Net)	10,514	10,576	10,579	10,569	10,580
BTU's of Fuel Used in Fossil Steam Plants Per kWh Generated (Net)	10,897	10,894	10,926	10,516	10,939
BTU's of Fuel Used in Turbine Plants Per kWh Generated (Net)	9,578	17,926	17,967	18,185	17,954
BTU's of Fuel Used in Reciprocating Plants Per kWh Generated (Net)	16,798	12,336	5,912	9,450	11,268

1/ Less than 0.05%.

Generating Plant and Transmission Line Data

Data on the capacity of generating plants and miles of transmission pole line are presented in Table 9. The total capacity of all generating plants operated by Wisconsin utilities as of December 1988 was about 11,000 megawatts of which about 638 megawatts were in plants located outside the State. Of the capacity of plants located in Wisconsin, 15.0% is steam-nuclear, 68.1% is steam-fossil, 3.9% is hydro, 1.0% is by reciprocating engines, and 12.0% is turbine.

About 9,334 miles of transmission line were in service at the close of 1988 of which about 4,560 miles carry voltage in excess of 100,000 volts.

Data on Individual Utilities

Table 10 presents selected operating data covering the year 1988 for each Class A, B, and C private electric utility in the State and Table 11 presents similar data on each Class A, B, C and D municipal electric utility. Chart 15 shows the percentage distribution by companies of electric operating revenue from sales to ultimate consumers. Four large private utilities account for 83.7% of the total. Municipal utilities make up 8.7%.

Table 10 shows that private utilities as a group generated a large part of their energy requirements while Table 11 shows that municipal utilities purchase most of their requirements. Of the 82 individual municipal utilities listed, only 19 generated some electricity.

CHART 15

REVENUES OF WISCONSIN ELECTRIC UTILITIES IN PERCENT OF TOTAL SALES TO ULTIMATE CONSUMERS

1988

SUM OF PERCENT BY UTILITY

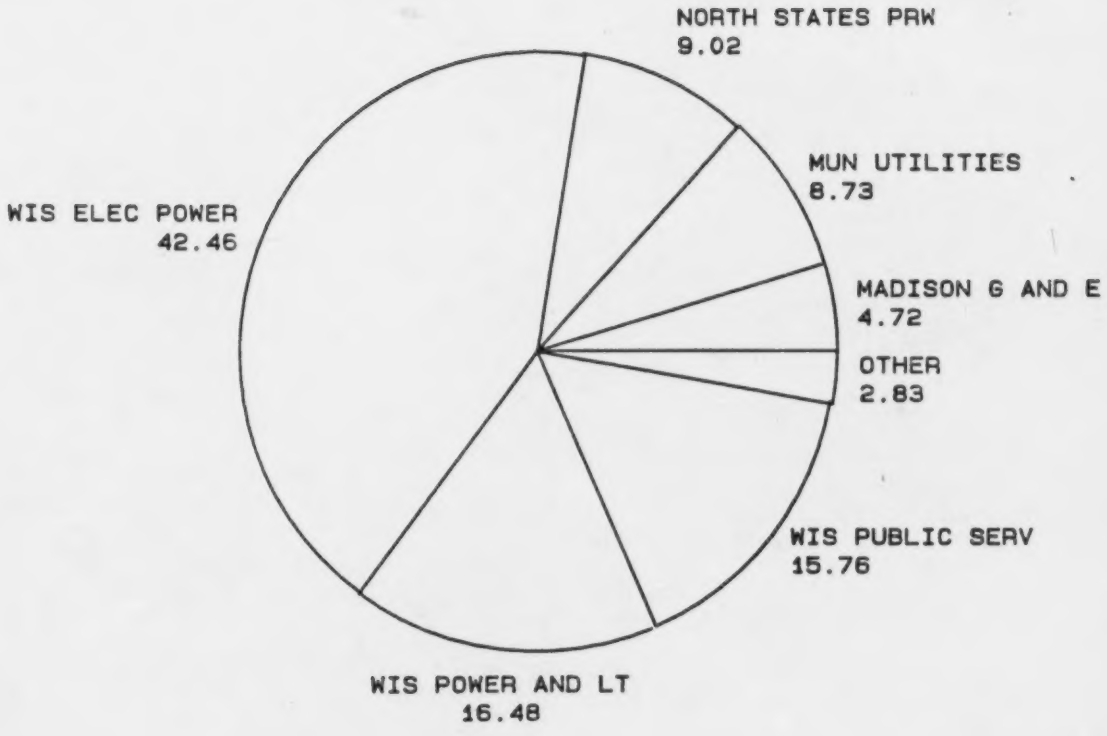


TABLE 4

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN ELECTRIC UTILITIES 1/
1988-1986

	1988	1987	1986
All Electric Utilities			
Operating Revenues			
Sales to Ultimate Consumers	$ 2,456,386,386	$ 2,348,090,849	$ 2,317,491,821
Sales to Other Utilities	208,726,437	193,846,624	187,716,164
Sales to Electric Cooperatives	14,781,614	14,280,874	14,054,043
Miscellaneous Revenues	18,182,869	15,742,846	20,800,722
Total Operating Revenues	$ 2,698,077,306	$ 2,571,961,193	$ 2,540,062,750
Operating Revenue Deductions			
Operation and Maintenance	$ 1,812,058,737	$ 1,606,884,609	$ 1,564,401,694
Depreciation and Amortization	262,012,459	261,665,180	260,022,458
Taxes Other than Income Taxes	119,568,500	94,078,809	107,063,303
Income Taxes	116,655,487	169,992,564	193,543,558
Total Operating Expenses	$ 2,310,295,183	$ 2,132,621,162	$ 2,125,031,013
Net Operating Revenues	$ 387,782,123	$ 439,340,031	$ 415,031,737
Private Electric Utilities			
Operating Revenues			
Sales to Ultimate Consumers	$ 2,225,726,885	$ 2,127,879,947	$ 2,097,870,167
Sales to Other Utilities	208,446,130	193,557,874	187,397,280
Sales to Electric Cooperatives	14,781,614	14,280,874	14,054,043
Miscellaneous Revenues	13,527,762	11,390,237	16,890,617
Total Operating Revenues	$ 2,462,482,391	$ 2,347,108,932	$ 2,316,212,107
Operating Revenue Expenses			
Operation and Maintenance	$ 1,606,233,230	$ 1,409,765,097	$ 1,363,815,549
Depreciation and Amortization	251,654,096	251,936,558	251,083,928
Taxes Other than Income Taxes	111,264,939	86,379,275	100,010,838
Income Taxes	116,655,487	169,992,564	193,543,558
Total Operating Expenses	$ 2,085,807,752	$ 1,918,073,494	$ 1,908,453,873
Net Operating Revenues	$ 376,674,639	$ 429,035,438	$ 407,758,234

(Continued)

TABLE 4 (Concluded)

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN ELECTRIC UTILITIES 1/
1988-1986

Municipal Electric Utilities	1988	1987	1986
Operating Revenues			
Sales to Ultimate Consumers	$ 230,659,501	$ 220,210,902	$ 219,621,654
Sales to Other Electric Utilities	280,307	288,750	318,884
Sales to Electric Cooperatives	0	0	0
Miscellaneous Operating Revenues	4,655,107	4,352,609	3,910,105
Total Operating Revenues	$ 235,594,915	$ 224,852,261	$ 223,850,643
Operating Revenue Expenses			
Operation and Maintenance	$ 205,825,507	$ 197,119,512	$ 200,586,145
Depreciation and Amortization	10,358,363	9,728,622	8,938,530
Taxes Other than Income Taxes	8,303,561	7,699,534	7,052,465
Total Operating Expenses	$ 224,487,431	$ 214,547,668	$ 216,577,140
Net Operating Revenues	$ 11,107,484	$ 10,304,593	$ 7,273,503

1/ Excluding out-of-state operations.

TABLE 5

SALES TO ULTIMATE CONSUMERS BY CLASS
WISCONSIN ELECTRIC UTILITIES 1/
1988-1986

All Electric Utilities	1988	1987	1986
Revenues			
Residential	$ 822,689,512	$ 773,504,459	$ 768,327,167
Commercial and Industrial	1,456,482,588	1,396,637,348	1,365,818,511
Rural	131,590,327	132,123,937	136,256,541
Public Street and Highway Lighting	28,793,191	29,303,918	29,890,493
Other Sales to Public Authorities	11,917,198	11,860,216	12,551,824
Interdepartmental Sales	4,913,570	4,660,971	4,647,284
Total Revenue from Ultimate Consumers	$2,456,386,386	$2,348,090,849	$2,317,491,820
Megawatt Hours Sold			
Residential	12,440,600	11,617,410	11,298,316
Commercial and Industrial	30,180,969	28,295,071	26,467,579
Rural	2,086,834	2,073,424	2,098,377
Public Street and Highway Lighting	389,117	404,304	413,574
Other Sales to Public Authorities	257,271	249,021	247,741
Interdepartmental Sales	98,095	93,490	89,717
Total Megawatt Hours Sold to Ultimate Consumers	45,452,886	42,732,720	40,615,304
Average Number of Customers 2/			
Residential	1,637,089	1,610,171	1,586,593
Commercial and Industrial	211,620	207,916	202,779
Rural	143,520	146,711	146,450
Public Street and Highway Lighting	4,165	4,477	4,940
Other Sales to Public Authorities	1,008	965	964
Interdepartmental Sales	96	100	105
Total Ultimate Consumers	1,997,498	1,970,340	1,941,831

(Continued)

TABLE 5 (Continued)

SALES TO ULTIMATE CONSUMERS BY CLASS
WISCONSIN ELECTRIC UTILITIES 1/
1988-1986

Private Electric Utilities	1988	1987	1986
Revenues			
Residential	$ 757,807,672	$ 711,717,062	$ 707,314,266
Commercial and Industrial	1,311,082,224	1,258,104,390	1,227,763,428
Rural	119,518,300	120,240,976	123,720,382
Public Street and Highway Lighting	24,946,201	25,440,684	26,126,097
Other Sales to Public Authorities	10,395,024	10,489,571	11,058,598
Interdepartmental Sales	1,977,464	1,887,264	1,887,395
Total Revenue from Ultimate Consumers	$2,225,726,885	$2,127,879,947	$2,097,870,166
Megawatt Hours Sold			
Residential	11,197,637	10,443,308	10,148,312
Commercial and Industrial	27,047,401	25,385,143	23,655,154
Rural	1,863,356	1,858,595	1,874,210
Public Street and Highway Lighting	340,322	355,883	364,574
Other Sales to Public Authorities	228,683	224,148	226,330
Interdepartmental Sales	39,282	37,472	35,881
Total Megawatt Hours Sold to Ultimate Consumers	40,716,681	38,304,549	36,304,461
Average Number of Customers 2/			
Residential	1,482,104	1,457,549	1,435,692
Commercial and Industrial	185,775	182,383	177,838
Rural	126,626	130,120	129,312
Public Street and Highway Lighting	3,700	3,701	3,682
Other Sales to Public Authorities	620	624	615
Interdepartmental Sales	7	7	8
Total Ultimate Consumers	1,798,832	1,774,384	1,747,147

(Continued)

TABLE 5 (Concluded)

SALES TO ULTIMATE CONSUMERS BY CLASS
WISCONSIN ELECTRIC UTILITIES 1/
1988-1986

Municipal Electric Utilities	1988	1987	1986
Revenues			
Residential	$ 64,881,840	$ 61,787,397	$ 61,012,901
Commercial and Industrial	145,400,364	138,532,958	138,055,083
Rural	12,072,027	11,882,961	12,536,159
Public Street and Highway Lighting	3,846,990	3,863,234	3,764,396
Other Sales to Public Authorities	1,522,174	1,370,645	1,493,226
Interdepartmental Sales	2,936,106	2,773,707	2,759,889
Total Revenue from Ultimate Consumers	$230,659,501	$220,210,902	$219,621,654
Megawatt Hours Sold			
Residential	1,242,963	1,174,102	1,150,004
Commercial and Industrial	3,133,568	2,909,928	2,812,425
Rural	223,478	214,829	224,167
Public Street and Highway Lighting	48,795	48,421	49,000
Other Sales to Public Authorities	28,588	24,873	21,411
Interdepartmental Sales	58,813	56,018	53,836
Total Megawatt Hours Sold to Ultimate Consumers	4,736,205	4,428,171	4,310,843
Average Number of Customers 2/			
Residential	154,985	152,622	150,901
Commercial and Industrial	25,845	25,533	24,941
Rural	16,894	16,591	17,138
Public Street and Highway Lighting	465	776	1,258
Other Sales to Public Authorities	388	341	349
Interdepartmental Sales	89	93	97
Total Ultimate Consumers	198,666	195,956	194,684

1/ Excluding out-of-state operations.
2/ Heating, cooking and yard lighting customers on separate rates are not included in customer data, as they would be duplications.

TABLE 6

COMPARATIVE STATEMENT OF OPERATION AND MAINTENANCE EXPENSES
WISCONSIN ELECTRIC UTILITIES 1/
1988-1986

All Electric Utilities	1988	1987	1986
Production Expense-Total Company			
Steam-Nuclear Fuel	$ 164,125,155	$ 147,695,561	$ 139,737,284
Steam-Fossil Fuel	732,915,663	619,237,659	651,786,455
Hydraulic	18,283,149	16,309,942	16,080,458
Int. Comb.-Recip. and Turbine	11,050,158	6,418,777	6,874,329
Purchases or Net Interchanges	420,386,221	382,252,856	357,861,819
Other Power Supply	8,227,390	6,407,531	6,163,572
Total Production Expense	$1,354,987,736	$1,178,322,326	$1,178,503,917
Amount Applicable to Out-of-State Sales	9,008,828	5,397,121	14,261,997
Amount Applicable to Wisconsin Sales	$1,345,978,908	$1,172,925,205	$1,164,241,920
Operation and Maintenance - Wisconsin Only			
Production	$1,345,978,908	$1,172,925,205	$1,164,241,920
Transmission 2/	19,604,518	18,361,675	19,808,541
Distribution 2/	149,440,367	144,069,338	138,644,498
Customer Accounts	58,393,120	61,126,077	59,846,588
Sales Promotion 3/	1,414,036	1,176,560	878,916
Customer Service	50,567,471	46,579,595	27,473,282
Administrative and General	186,660,317	162,646,159	153,507,949
Total	$1,812,058,737	$1,606,884,609	$1,564,401,694

Private Electric Utilities			
Production Expense - Total Company			
Steam-Nuclear Fuel	$ 164,125,155	$ 147,695,561	$ 139,737,284
Steam-Fossil Fuel	720,399,536	606,593,495	638,040,175
Hydraulic	17,870,456	15,932,422	15,685,370
Int. Comb.-Recip. and Turbine	10,237,452	5,793,638	6,216,259
Purchases or Net Interchanges	251,475,711	221,401,158	193,618,563
Other Power Supply	8,018,324	6,212,529	5,966,851
Total Production Expense	$1,172,126,634	$1,003,628,803	$ 999,264,502
Amount Applicable to Out-of-State Sales	9,008,828	5,397,121	14,261,997
Amount Applicable to Wisconsin Sales	$1,163,117,806	$ 998,231,682	$ 985,002,505
Operation and Maintenance - Wisconsin Only			
Production	$1,163,117,806	$ 998,231,682	$ 985,002,505
Transmission 2/	19,355,673	18,153,380	19,632,622
Distribution 2/	141,183,065	136,148,896	130,880,164
Customer Accounts	55,036,804	57,854,539	56,605,114
Sales Promotion	1,315,625	1,145,098	864,473
Customer Service	50,561,705	46,575,971	27,470,182
Administrative and General	175,662,552	151,655,531	143,360,489
Total	$1,606,233,230	$1,409,765,097	$1,363,815,549

TABLE 6 (Concluded)

COMPARATIVE STATEMENT OF OPERATION AND MAINTENANCE EXPENSE
WISCONSIN ELECTRIC UTILITIES 1/
1988-1986

Municipal Electric Utilities	1988	1987	1986
Production Expense			
Steam-Fossil Fuel	$ 12,516,127	$ 12,644,164	$ 13,746,280
Hydraulic	412,693	377,520	395,088
Int. Com.-Recip. and Turbine	812,706	625,139	658,070
Purchases or Net Interchanges	168,910,510	160,851,698	164,243,256
Other Power Supply	209,066	195,002	196,721
Total Production Expense	$ 182,861,102	$ 174,693,523	$ 179,239,415
Transmission 2/	248,845	208,295	175,919
Distribution 2/	8,257,302	7,920,442	7,764,334
Customer Accounts	3,356,316	3,271,538	3,241,474
Sales 3/	104,177	35,086	17,543
Administrative and General	10,997,765	10,990,628	10,147,460
Total	$ 205,825,507	$ 197,119,512	$ 200,586,145

1/ Out-of-state operations of Wisconsin Utilities are not included except in detail of production expenses, as indicated.
2/ Transmission and distribution expenses are combined in the Class D report forms. These utilities are assumed to have no transmission expense.
3/ Includes customer service expense for municipal utilities.

TABLE 7

SUMMARY OF MEGAWATT HOURS SOLD AND USED
WISCONSIN ELECTRIC UTILITIES
1988-1986

All Electric Utilities	1988	1987	1986
MWh Sold to Ultimate Customers (Wisconsin Only)	45,452,886	42,732,720	40,615,304
MWh Sold to Other Electric Utilities	5,820,631	5,331,291	4,893,748
MWh sold to Electric Coops.	417,665	405,780	382,951
Total MWh Sold in Wisconsin 1/	51,691,182	48,469,791	45,892,003
MWh Used by Utilities	132,133	120,752	122,465
Total MWh Sold & Used in Wisconsin 1/	51,823,315	48,590,543	46,014,468
MWh Sold Out of State			
Sales to Ultimate Consumers	2,995,127	610,912	585,340
Sales to Electric Utilities and Cooperatives	1,072,939	1,258,568	1,114,032
Total MWh Sold Out of State	4,068,066	1,869,480	1,699,372
MWh Used by Utilities Out of State	1,082	3,209	6,630
Total MWh Sold & Used Out of State	4,069,148	1,872,689	1,706,002
Total MWh Sold & Used	55,892,463	50,463,232	47,720,470
MWh Unaccounted for	3,368,082	3,096,545	2,964,303
Total MWh Generated and Purchased Purchased 1/	59,260,545	53,559,777	50,684,773

(Continued)

TABLE 7 (Continued)

SUMMARY OF MEGAWATT HOURS SOLD AND USED
WISCONSIN ELECTRIC UTILITIES
1988-1986

	1988	1987	1986
Private Electric Utilities			
MWh Sold to Ultimate Customers (Wisconsin Only)	40,716,681	38,304,549	36,304,461
MWh Sold to Other Electric Utilities	5,819,732	5,329,448	4,892,480
MWh Sold to Electric Cooperatives	417,665	405,780	382,951
Total MWh Sold in Wisconsin 1/	46,954,078	44,039,777	41,579,892
MWh Used by Utilities	121,248	111,881	106,645
Total MWh Sold & Used in Wisconsin 1/	47,075,326	44,151,658	41,686,537
MWh Sold Out of State			
Sales to Ultimate Consumers	2,995,127	610,912	585,340
Sales to Electric Utilities & Cooperatives	1,072,939	1,258,568	1,114,032
Total MWh Sold Out of State	4,068,066	1,869,480	1,699,372
MWh Used by Utilities Out of State	1,082	3,209	6,630
Total MWh Sold & Used Out of State	4,069,148	1,872,689	1,706,002
Total MWh Sold and Used	51,144,474	46,024,347	43,392,539
MWh Unaccounted for	3,158,343	2,892,575	2,761,517
Total MWh Generated and Purchased 1/	54,302,817	48,916,922	46,154,056

(Continued)

TABLE 7 (Concluded)

SUMMARY OF MEGAWATT HOURS SOLD AND USED
WISCONSIN ELECTRIC UTILITIES
1988-1986

	1988	1987	1986
Municipal Electric Utilities			
MWh Sold to Ultimate Customers (Wisconsin Only)	4,736,205	4,428,171	4,310,843
MWh Sold to Other Electric Utilities	899	1,843	1,268
MWh Sold to Electric Coops.	0	0	0
Total MWh Sold in Wisconsin 1/	4,737,104	4,430,014	4,312,111
MWh Used by Utilities	10,885	8,871	15,820
Total MWh Sold or Used in Wisconsin 1/	4,747,989	4,438,885	4,327,931
MWh Sold Out of State			
Sales to Ultimate Consumers	0	0	0
Sales to Electric Utilities & Cooperatives	0	0	0
Total MWh Sold Out of State	0	0	0
MWh Used by Utilities Out of State	0	0	0
Total MWh Sold and Used Out of State	0	0	0
Total MWh Sold and Used	4,747,989	4,438,885	4,327,931
MWh Unaccounted for	209,739	203,970	202,786
Total MWh Generated and Purchased 1/	4,957,728	4,642,855	4,530,717

1/ To avoid double counting subtract "MWh Sold to Other Utilities".

TABLE 8

MEGAWATT HOURS GENERATED AND PURCHASED
WISCONSIN ELECTRIC UTILITIES
1988-1986

All Electric Utilities	1988	1987	1986
Net Generation in Wisconsin			
Steam - Nuclear Fuel	11,464,455	11,178,886	11,039,856
Steam - Fossil Fuel	30,099,937	27,696,375	25,905,900
Hydraulic	1,063,411	1,138,524	1,847,361
Internal Combustion - Recip.	6,542	3,614	3,849
Internal Combustion - Turbine	102,212	42,015	46,508
Total	42,736,557	40,059,414	38,843,474
Net Generation Outside Wisconsin by Wisconsin Companies			
Steam - Fossil Fuel	2,817,756	4/	4/
Hydraulic	386,204	354,159	436,352
Total	3,203,960	354,159	436,352
Total Megawatt Hours Generated			
Steam - Nuclear Fuel	11,464,455	11,178,886	11,039,856
Steam - Fossil Fuel	32,917,693	27,696,375	25,905,900
Hydraulic	1,449,615	1,492,683	2,283,713
Internal Combustion - Recip.	6,542	3,614	3,849
Internal Combustion - Turbine	102,212	42,015	46,508
Total	45,940,517	40,413,573	39,279,826
Megawatt Hours Purchased Plus Net Interchanges			
From Wisconsin Electric Utils. 2/	5,898,722	5,315,444	8,845,408
From Out-of-State Elec. Utils. 3/	0	4,188,213	0
From Electric Cooperatives	2,045,321	1,977,167	1,634,381
From Other Non-Utility Companies	7,209,508	1,665,379	925,158
Total	15,153,551	13,146,204	11,404,947
Total Megawatt Hours Generated and Purchased 2/	61,094,068	53,559,777	50,684,773
Tons of Coal Used in Steam Plants	18,536,308	15,530,512	12,234,977
Gallons of Fuel Oil Used in Steam Plants	3,921,876	4,208,820	5,585,748
Therms of Natural Gas Used in Steam Plants	19,892,349	9,859,508	10,645,370
Tons of Wood in Steam Plants	282,508	247,498	186,552
Gallons of Fuel Oil Used in Internal Combustion-Recip. Plants	354,287	115,468	184,101
Therms of Natural Gas Used in Internal Combustion-Recip. Plants	206,747	98,050	444,400
Gallons of Fuel Oil Used in Internal Combustion-Turbine Plts.	6,308,010	2,175,978	4,076,772
Therms of Natural Gas Used in Internal Combustion-Turbine Plts.	7,350,958	4,757,116	2,577,164

TABLE 8 (Continued)

MEGAWATT HOURS GENERATED AND PURCHASED
WISCONSIN ELECTRIC UTILITIES
1988-1986

Private Electric Utilities 1/	1988	1987	1986
Net Generation in Wisconsin			
Steam - Nuclear Fuel	11,464,455	11,178,886	11,039,856
Steam - Fossil Fuel	29,840,976	27,449,786	25,648,191
Hydraulic	942,413	1,031,419	1,725,266
Internal Combustion - Recip.	1,749	541	747
Internal Combustion - Turbine	101,772	41,650	46,322
Total	42,351,365	39,702,282	38,460,382
Net Generation Outside Wisconsin by Wisconsin Companies			
Steam - Fossil Fuel	2,817,756	4/	4/
Hydraulic	386,204	354,159	436,352
Total	3,203,960	354,159	436,352
Total Megawatt Hours Generated			
Steam - Nuclear Fuel	11,464,455	11,178,886	11,039,856
Steam - Fossil Fuel	32,658,732	27,449,786	25,648,191
Hydraulic	1,328,617	1,385,578	2,161,618
Internal Combustion - Recip.	1,749	541	747
Internal Combustion - Turbine	101,772	41,650	46,322
Total	45,555,325	40,056,441	38,896,734
Megawatt Hours Purchased Plus Net Interchanges			
From Wisconsin Electric Utilities 2/	1,472,156	1,163,537	4,822,356
From Out-of-State Elec. Utils. 3/	0	4,188,213	0
From Electric Cooperatives	1,900,840	1,846,395	1,510,389
From Other Non-Utility Companies	7,208,019	1,662,336	924,577
Total	10,581,015	8,860,481	7,257,322
Total Megawatt Hours Generated and Purchased 2/	56,136,340	48,916,922	46,154,056
Tons of Coal Used in Steam Plants	18,364,491	15,364,673	12,047,798
Gallons of Fuel Oil Used in Steam Plants	3,921,876	4,208,820	5,585,748
Therms of Natural Gas Used in Steam Plants	19,892,349	9,859,508	10,645,370
Tons of Wood in Steam Plants	282,508	247,498	186,552
Gallons of Fuel Oil Used in Internal Combustion-Recip. Plants	149,856	51,996	63,462
Therms of Natural Gas Used in Internal Combustion-Recip. Plants	0	0	442,490
Gallons of Fuel Oil Used in Internal Combustion-Turbine Plts.	6,260,730	2,162,370	4,076,772
Therms of Natural Gas Used in Internal Combustion-Turbine Plts.	7,343,910	4,743,646	2,573,626

TABLE 8 (Concluded)

MEGAWATT HOURS GENERATED AND PURCHASED
WISCONSIN ELECTRIC UTILITIES
1988-1986

Municipal Electric Utilities	1988	1987	1986
Net Generation in Wisconsin			
Steam - Fossil Fuel	258,961	246,589	257,709
Hydraulic	120,998	107,105	122,095
Internal Combustion - Recip.	4,793	3,073	3,102
Internal Combustion - Turbine	440	365	186
Total	385,192	357,132	383,092
Megawatt Hours Purchased plus Net Interchanges			
From Wisconsin Electric Utils.2/	4,426,566	4,151,908	4,023,052
From Electric Cooperatives	144,481	130,772	123,992
From Other Non-Utility Companies	1,489	3,043	581
Total	4,572,536	4,285,723	4,147,625
Total Megawatt Hours Generated and Purchased 2/	4,957,728	4,642,855	4,530,717
Tons of Coal Used in Steam Plants	171,817	165,839	234,427
Gallons of Fuel Oil Used in Steam Plants	0	0	0
Therms of Natural Gas Used in Steam Plants	0	0	0
Gallons of Fuel Oil Used in Internal Combustion-Recip. Plants	204,431	63,472	120,639
Therms of Natural Gas Used in Internal Combustion-Recip. Plants	206,747	98,050	1,910
Gallons of Fuel Oil Used in Internal Combustion-Turbine Plants	47,280	13,608	0
Therms of Natural Gas Used in Internal Combustion-Turbine Plants	7,048	13,470	3,538

1/ Experimental generation using windmills and photo voltaics is being done by some utilities. These plants will be included in the Bulletin if and when they produce a significant amount of commercial power.
2/ Energy included in "Purchased from Wisconsin Electric Utilities" is also included in the generation figures. Therefore, to avoid double counting, you should subtract "Purchased from Wisconsin Electric Utilities" from the "Total Megawatt Hours Generated and Purchased" figure.
3/ Includes purchases delivered in Wisconsin or at state line.
4/ Wisconsin Electric Power Co. purchased from Upper Peninsula Power Co. on 12/87.

GENERATING PLANT AND TRANSMISSION LINE DATA
WISCONSIN ELECTRIC UTILITIES
1988-1986

Capacity of Generators in Kilowatts	1988	1987	1986
All Plants in Wisconsin			
Steam - Nuclear Fuel	1,540,682	1,540,682	1,540,682
Steam - Fossil Fuel	7,049,128	7,048,528	7,052,828
Hydraulic	403,482	354,342	354,342
Internal Combustion - Recip.	99,175	98,455	108,627
Internal Combustion - Turbine	1,257,450	1,257,450	1,251,950
Total	10,349,917	10,299,457	10,308,429
Private Utility Plants in Wisconsin			
Steam - Nuclear Fuel	1,540,682	1,540,682	1,540,682
Steam - Fossil Fuel	6,915,948	6,911,348	6,907,648
Hydraulic	378,650	335,710	335,710
Internal Combustion-Recip.	24,640	24,640	24,640
Internal Combustion-Turbine	1,237,450	1,237,450	1,231,950
Total	10,097,370	10,049,830	10,040,630
Municipal Utility Plants in Wisconsin			
Steam - Fossil Fuel	133,180	137,180	145,180
Hydraulic	24,832	18,632	18,632
Internal Combustion-Recip.	74,535	73,815	83,987
Internal Combustion-Turbine	20,000	20,000	20,000
Total	252,547	249,627	267,799
Plants Located Outside Wisconsin Operated by Wisconsin Utils. 1/			
Steam - Fossil Fuel	537,862	2/	2/
Hydraulic	99,990	99,990	99,990
Total	637,852	99,990	99,990
Total Plants Operated by Wisconsin Utilities			
Steam - Nuclear Fuel	1,540,682	1,540,682	1,540,682
Steam - Fossil Fuel	7,586,990	7,048,528	7,052,828
Hydraulic	503,472	454,332	454,332
Internal Combustion-Recip.	99,175	98,455	108,627
Internal Combustion-Turbine	1,257,450	1,257,450	1,251,950
Total	10,987,769	10,399,447	10,408,419
Miles of Transmission Pole or Tower (Including Out-of-State)			
Over 100,000 Volts	4,560	4,521	4,412
Less than 100,000 Volts	4,774	4,807	4,856

1/ Out-of-State plants are all owned by private electric utilities.
2/ Wisconsin Electric Power Co. purchased from Upper Penincula Power Co. on 12/87.

TABLE 10

CONDENSED SUMMARY OF 1988 OPERATIONS
INDIVIDUAL PRIVATE ELECTRIC UTILITIES 1/

Utilities	Operating Revenues 2/	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Income Taxes	Net Operating Revenue	2/ Total MWh Sold	2/3/ Ave. No. of Consumers	4/ MWh Generated	4/ MWh Purchased
Class A, B, and C										
Consolidated Water Power Co.	$ 36,036,409	$ 33,809,257	$ 875,133	$ 243,317	$ 254,373	$ 854,329	978,788	1,010	96,925	889,716
Dahlberg Light & Power Co.	4,679,317	3,397,859	365,180	133,931	168,323	614,024	59,330	8,122	1,752	64,978
Madison Gas and Electric Co.	127,351,226	76,160,728	16,706,431	5,798,418	4,779,298	23,906,351	2,211,746	108,233	2,111,070	224,179
North Central Power Co.	1,675,440	1,127,338	127,989	53,162	96,624	270,327	21,301	3,145	6,563	18,057
Northern States Power Co.	243,425,604	175,670,129	20,980,327	9,562,555	9,476,998	27,735,595	4,821,836	183,477	764,652	4,658,016 4/
Northwestern Wisconsin Electric Co.	7,202,681	5,067,579	664,346	207,814	250,829	1,012,113	111,758	10,216	9,458	118,299 4/
Pioneer Power & Light Co.	1,194,469	994,761	59,347	24,639	25,146	90,576	19,501	1,427	0	21,043
Superior Water, Light & Power Co.	24,905,356	20,364,731	906,264	979,693	563,422	2,091,246	540,298	12,204	221	564,301
Westfield Milling & Electric Light Co.	542,911	462,119	25,482	4,936	7,254	43,120	8,349	595	0	8,800
Wisconsin Electric Power Co.	1,145,464,425	742,727,953	114,281,183	56,718,445	66,453,027	165,283,817	20,557,485	840,428	24,098,855	1,347,667 4/
Wisconsin Power and Light Co.	444,757,739	270,301,488	53,607,916	20,491,831	18,933,415	81,423,089	8,986,716	323,310	8,489,699	1,311,568 4/
Wisconsin Public Service Corp.	425,246,814	276,149,288	43,054,498	17,046,198	15,646,778	73,350,052	8,636,970	306,756	8,142,607	1,354,391 4/
Grand Total	$2,462,482,391	$1,606,233,230	$251,654,096	$111,264,939	$116,655,487	$376,674,639	46,954,078	1,798,923	43,721,802	10,581,015

1/ Data included in this table includes Wisconsin operations only, except where noted.
2/ Includes Interdepartmental Sales and Sales for Resale.
3/ Excluding Off-Peak Water Heating and Area Lighting Customers.
4/ Total company operations are represented in data on generation and purchases. Companies operating outside Wisconsin are: Northern States Power Co., Northwestern Wisconsin Electric Co., Wisconsin Electric Power Co., Wisconsin Power and Light Company and Wisconsin Public Service Corp. Where power is interchanged, the net figure is added to MWh purchased.

TABLE 11

CONDENSED SUMMARY OF 1988 OPERATIONS
INDIVIDUAL MUNICIPAL ELECTRIC UTILITIES 1/

Utilities	Operating Revenues	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Net Operating Revenue	2/ Total MWh Sold	2/3/ Ave. No. of Consumers	MWh Generated	MWh Purchased
Class A and B									
Cedarburg	$ 5,291,577	$ 4,675,515	$ 183,604	$ 162,787	$ 269,671	95,856	4,816	0	100,786
Jefferson	5,879,147	5,480,936	118,764	98,122	181,325	121,723	2,944	0	128,761
Kaukauna	19,048,516	15,362,328	819,218	668,228	2,198,742	525,720	9,192	113,893	435,156
Manitowoc	21,187,515	16,755,346	1,058,312	913,904	2,459,953	390,859	14,991	171,398	235,488
Marshfield	13,782,981	12,808,198	541,045	530,254	(96,516)	275,421	10,958	55,638	232,653
Menasha	7,362,183	6,114,503	581,223	513,318	153,139	130,554	6,580	33,961	98,508
New London	6,742,297	6,115,868	154,256	191,455	280,718	143,827	3,155	0	147,595
Oconomowoc	7,105,597	6,055,965	292,100	234,545	522,987	134,060	5,787	0	137,934
Plymouth	6,395,929	5,653,629	311,442	218,260	212,598	130,148	5,477	0	140,880
Rice Lake	5,230,401	4,708,807	235,093	167,460	119,041	100,718	4,246	0	106,834
River Falls	4,362,509	3,676,317	262,428	199,561	224,203	77,272	3,718	2,375	77,448
Shawano	7,267,229	6,424,455	241,602	234,630	366,542	156,433	4,395	0	159,834
Sheboygan Falls	5,562,356	5,232,435	168,625	107,094	54,202	139,633	2,870	0	143,477
Stoughton	4,630,966	4,057,382	172,615	136,198	264,771	88,597	5,752	0	94,105
Sturgeon Bay	6,511,720	5,503,124	400,204	268,266	340,126	112,996	6,659	0	120,240
Sun Prairie	5,222,148	4,619,721	236,865	174,131	191,431	110,682	5,822	0	111,467
Two Rivers	3,973,442	3,748,546	143,423	131,065	(49,592)	74,451	5,672	0	80,174
Waterloo	2,294,575	2,129,721	52,908	52,008	59,938	46,836	1,350	0	49,033
Waupun	2,918,928	2,674,429	95,577	86,924	61,998	62,520	3,384	0	65,341
Wisconsin Rapids	10,080,099	8,873,077	429,578	397,322	380,122	188,156	10,731	0	196,974
Subtotal	$150,850,115	$130,670,302	$ 6,498,882	$ 5,485,532	$ 8,195,399	3,106,461	118,727	377,265	2,862,688
Class C									
Algoma	1,812,202	1,745,640	59,302	62,718	(55,458)	34,529	1,844	0	36,378
Arcadia	2,005,272	1,488,443	169,407	122,672	224,750	39,342	1,128	741	40,505
Argyle	264,717	247,897	18,693	12,142	(14,015)	6,407	445	274	6,449
Bangor	1,607,612	1,442,829	66,484	59,782	38,517	28,342	1,407	0	30,216
Barron	1,665,279	1,450,652	108,145	67,661	38,821	31,312	1,562	319	33,217
Belmont	307,364	260,130	14,851	7,678	24,705	5,775	418	0	5,950
Benton	290,194	228,357	30,592	20,892	10,353	4,587	448	0	4,854
Black Earth	690,248	591,650	48,077	32,163	18,358	11,323	893	0	11,669
Black River Falls	2,170,735	1,990,319	80,293	88,483	11,640	42,276	2,352	2,732	41,390
Bloomer	1,938,527	1,913,793	60,013	39,096	(74,375)	43,202	1,650	0	45,016

TABLE 11 (Continued)

CONDENSED SUMMARY OF 1988 OPERATIONS
INDIVIDUAL MUNICIPAL ELECTRIC UTILITIES 1/

Utilities	Operating Revenues	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Net Operating Revenue	2/ Total MWh Sold	2/3/ Ave. No. of Consumers	MWh Generated	MWh Purchased
Boscobel	$ 1,450,953	$ 1,201,948	$ 90,337	$ 71,212	$ 87,456	26,217	1,582	0	27,989
Brodhead	1,443,742	1,203,902	63,355	45,069	131,416	27,149	1,606	0	28,662
Cadott	585,580	529,366	26,812	14,830	14,572	10,154	654	0	10,872
Cashton	290,885	266,329	23,770	17,519	(16,733)	6,108	462	88	6,324
Centuria	246,181	237,851	6,692	5,167	(3,529)	4,393	391	0	4,759
Clintonville	3,152,923	2,827,599	99,120	80,804	145,400	54,412	2,446	0	57,191
Columbus	2,252,023	1,977,242	96,479	76,946	101,356	44,893	2,134	0	48,996
Cornell	661,891	585,107	25,959	23,182	27,643	11,794	783	0	12,291
Cuba City	688,065	577,297	41,935	22,492	46,341	12,380	903	0	13,435
Cumberland	1,760,053	1,288,030	189,818	123,057	159,148	29,667	1,180	491	31,290
Eagle River	1,311,077	1,123,537	56,969	45,482	85,089	22,857	1,066	0	23,712
Elkhorn	3,478,558	3,048,987	161,288	111,220	157,063	63,406	2,649	0	66,722
Elroy	667,774	593,894	54,439	32,493	(13,052)	14,845	784	(203)	15,922
Evansville	2,151,417	1,997,394	67,012	59,803	27,208	43,037	2,259	0	45,485
Fennimore	1,164,335	1,009,664	63,688	41,828	49,155	22,414	1,169	116	23,626
Florence	515,997	411,888	42,013	24,285	37,811	8,289	854	0	8,951
Gresham	556,294	508,402	50,656	46,875	(49,639)	9,296	916	2,854	7,389
Hartford	3,770,918	3,418,131	95,737	110,593	146,457	69,624	3,029	0	72,561
Hazel Green	329,003	302,783	14,848	9,464	1,908	5,861	528	0	6,674
Hustisford	802,164	689,215	58,637	41,722	12,590	14,305	1,074	0	15,392
Juneau	1,223,685	1,032,685	65,360	46,546	79,094	24,565	838	0	25,452
Kiel	2,200,967	2,032,481	77,233	51,358	39,895	45,492	1,674	0	47,770
LaFarge	292,289	223,811	16,215	12,976	39,287	4,870	592	0	5,194
Lake Mills	2,574,866	2,375,067	95,549	77,530	26,720	50,018	2,691	0	50,347
Lodi	852,874	724,344	52,160	34,182	42,188	15,922	1,088	0	16,627
Mazomanie	443,039	405,010	29,633	15,960	(7,564)	7,871	629	0	8,302
Medford	3,861,078	3,526,458	108,682	88,163	137,775	78,911	2,686	0	81,864
Mount Horeb	1,834,893	1,550,217	131,414	74,078	79,184	35,664	2,075	0	37,148
Muscoda	988,821	839,880	48,313	37,451	63,177	17,026	953	96	18,810
New Glarus	769,760	708,763	20,268	17,340	23,389	15,996	935	0	16,829

TABLE 11 (Concluded)

CONDENSED SUMMARY OF 1988 OPERATIONS
INDIVIDUAL MUNICIPAL ELECTRIC UTILITIES 1/

Utilities	Operating Revenues	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Net Operating Revenue	2/ Total MWh Sold	2/3/ Ave. No. of Consumers	MWh Generated	MWh Purchased
New Holstein	$ 2,945,954	$ 2,776,416	$ 97,557	$ 68,521	$ 3,460	57,599	2,054	0	59,962
New Lisbon	691,267	546,197	72,000	46,296	26,774	13,902	734	181	14,115
New Richmond	2,425,657	2,240,819	79,129	70,910	34,799	47,787	2,395	0	51,359
Oconto Falls	1,213,709	1,107,068	39,452	34,614	32,585	22,463	1,242	0	23,316
Pardeeville	734,372	686,496	34,132	22,268	(8,524)	15,069	959	181	15,730
Prairie du Sac	1,472,751	1,243,353	63,148	41,217	125,033	27,777	1,060	0	28,262
Princeton	595,045	494,497	34,802	17,090	48,656	10,211	803	0	10,898
Reedsburg	4,730,046	4,367,692	145,673	116,457	100,224	109,230	2,820	0	113,875
Richland Center	3,328,429	2,919,126	157,611	83,005	168,687	64,964	2,688	0	68,435
Sauk City	1,339,683	1,163,324	52,624	35,497	88,238	26,787	1,421	0	27,376
Shullsburg	470,288	414,838	25,972	21,439	8,039	8,653	698	0	9,191
Slinger	923,794	835,206	31,568	20,533	36,487	16,654	850	0	17,780
Spooner	1,259,765	1,205,757	36,118	31,390	(13,500)	24,310	1,434	0	26,007
Stratford	528,190	480,088	12,923	8,899	26,280	9,055	681	0	9,645
Trempealeau	468,900	416,239	15,808	8,783	28,070	8,689	742	0	9,290
Viola	217,375	182,353	21,243	13,512	267	4,027	394	33	4,280
Waunakee	2,084,541	1,814,766	114,619	68,562	86,594	40,555	2,254	0	42,803
Westby	840,279	763,593	35,185	24,057	17,444	16,066	914	0	16,988
Whitehall	1,067,019	971,709	43,486	36,298	15,526	18,886	837	0	21,360
Wisconsin Dells	1,878,463	1,550,093	91,313	59,139	177,918	34,206	1,669	0	37,053
Wonewoc	286,491	274,816	10,415	5,832	(4,572)	6,251	458	0	6,678
Subtotal	$ 84,576,273	$ 75,031,428	$ 3,845,026	$ 2,807,233	$ 2,892,586	1,627,532	79,885	7,903	1,706,623
Class D - Merrillan	168,527	123,777	14,455	10,796	19,499	3,111	288	24	3,225
Grand Total	$ 235,594,915	$ 205,825,507	$ 10,358,363	$ 8,303,561	$11,107,484	4,737,244	198,672	385,192	4,572,536

1/ Data included in this table includes Wisconsin operations only, except where noted.

2/ Includes Interdepartmental Sales and Sales for Resale.

3/ Excluding Off-Peak Water Heating and Area Lighting Customers.

GAS UTILITY SUMMARY

Comparative statistics of the gas utility industry in Wisconsin for the three year period 1988-1986 are presented in this section. The following tables and charts deal with gas utility operations:

Table 12 - Comparative Statement of Revenues and Expenses, 1988-1986.
Table 13 - Sales to Ultimate Consumers by Classes, 1988-1986.
Table 14 - Operating and Plant Statistics, 1988-1986
Table 15 - Condensed Summary of 1988 Operations - Individual Utilities

Chart 16 - Comparison of Revenues and Expenses, Wisconsin Gas Utilities, 1979 -1988.
Chart 17 - Residential Gas Spaceheating Customers Average Annual Use, 1979-1988
Chart 18 - Residential Gas Spaceheating Customers Revenue per Therm, 1979-1988.
Chart 19 - Residential Gas Spaceheating Customers Average Annual Bill, 1979-1988.
Chart 20 - Revenue of Individual Gas Utilities, Percent of Total Sales to Ultimate Consumers, 1988.

Gas Utility Revenues and Expenses

Table 12 and Chart 16 show that gas utility revenues in 1988 were up about 11.48% from the previous year. Expenses were up 9.67% during the same period. Therms sold to ultimate consumers increased 12.76% and the number of ultimate (retail) consumers increased 2.13%.

Sales to Ultimate Consumers

Table 13 summarizes sales to ultimate consumers. Percentage changes in 1988 by principle classes of service are given below:

	% Change From 1987 to 1988		
	Revenues	Therms Sold	Number of Customers
Residential - General	0.20 %	1.29 %	(3.06)%
Residential - Space Heating	16.10	17.49	2.47
Commercial and Industrial - Firm	(2.95)	(1.95)	(1.45)
Commercial and Industrial - Interr.	12.28	13.12	3.37
Commercial and Industrial - Sp. Htg.	5.23	3.96	9.74
Total Sales to Ultimate Consumers	12.47 %	12.76 %	2.13 %

The number of residential space heating customers rose 2.47% during 1988. Since many of these customers formerly took service as residential general customers, a decline occurred in the number served in that classification. Commercial and industrial firm customers decreased by (3.06)% while commercial and industrial space heating and interruptible customers increased by 3.37% and 9.74% respectively.

CHART 16

WISCONSIN GAS UTILITIES REVENUES AND EXPENSES

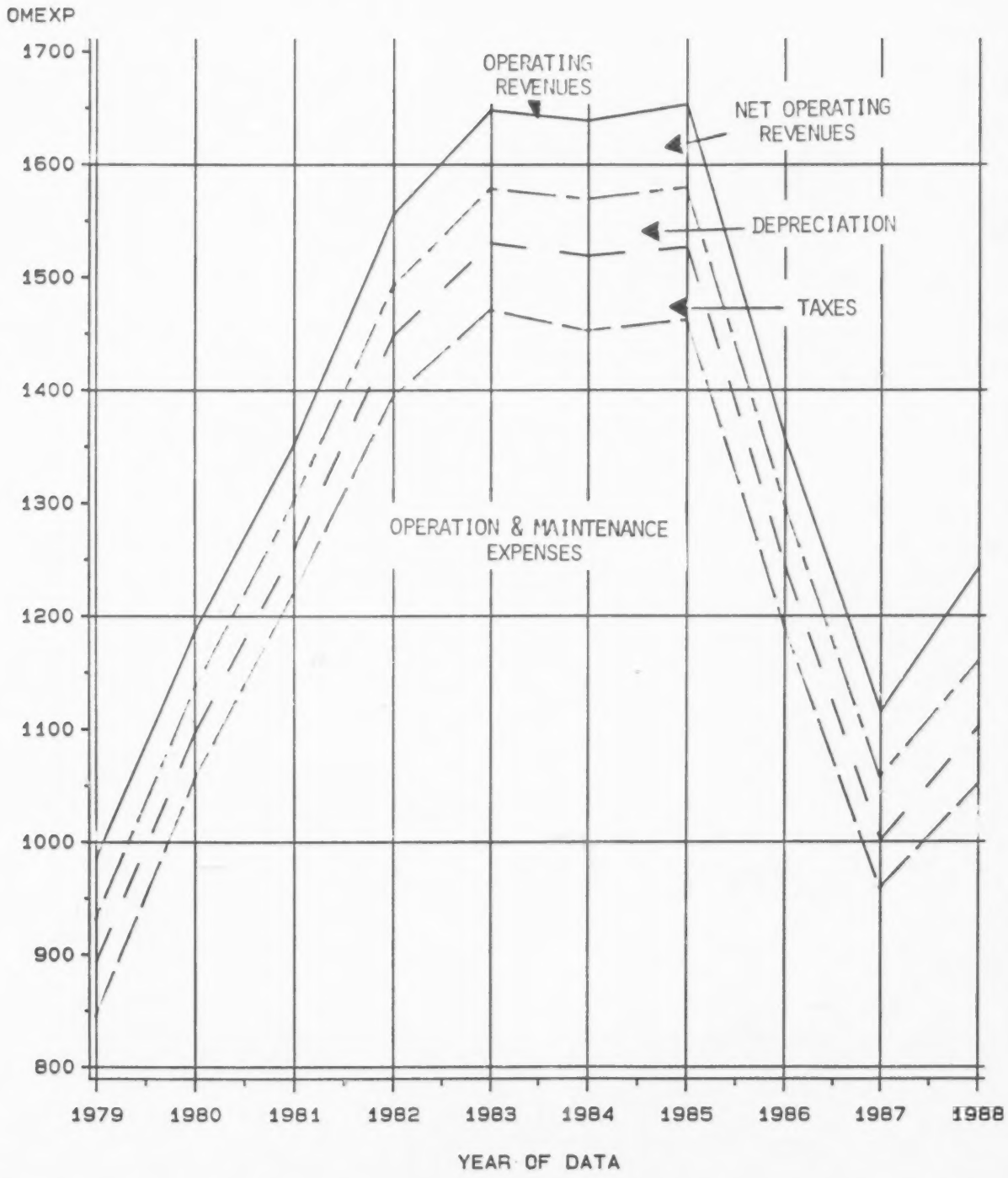


CHART 17

AVERAGE ANNUAL USE
RESIDENTIAL GAS SPACEHEATING CUSTOMERS

CHART 18

REVENUE PER THERM

RESIDENTIAL GAS SPACEHEATING CUSTOMERS

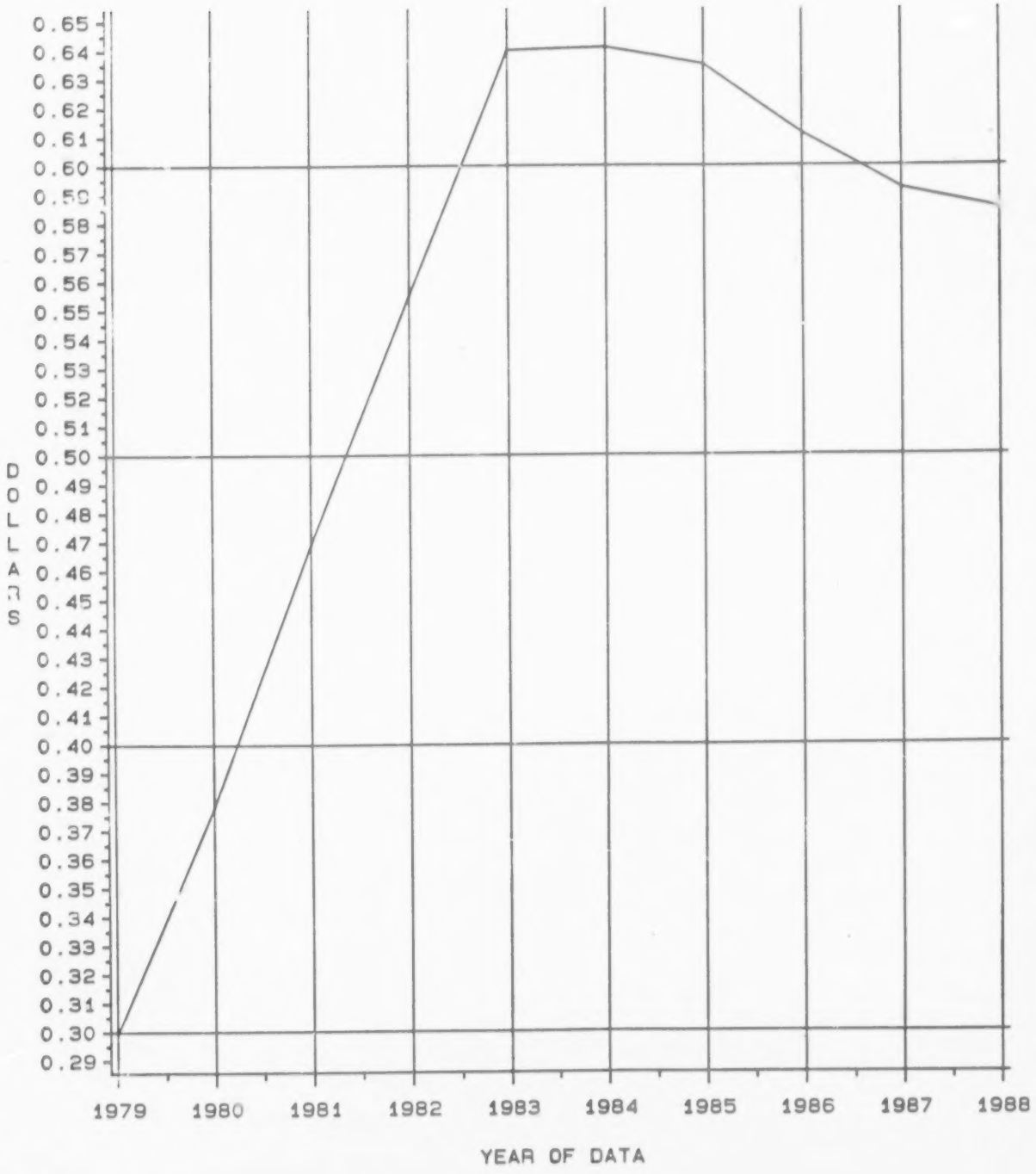


CHART 19

AVERAGE ANNUAL BILL

RESIDENTIAL GAS SPACEHEATING CUSTOMERS

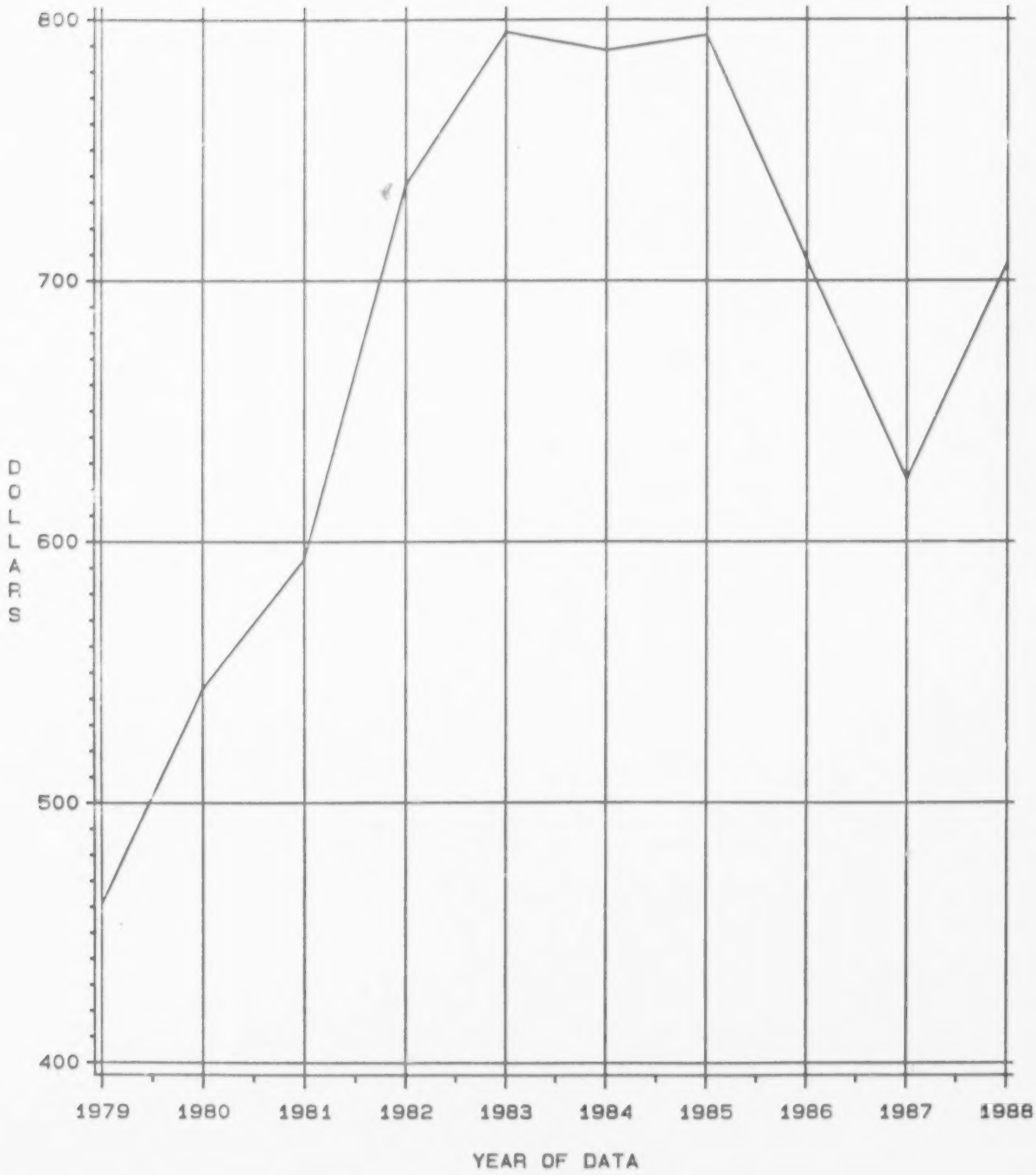
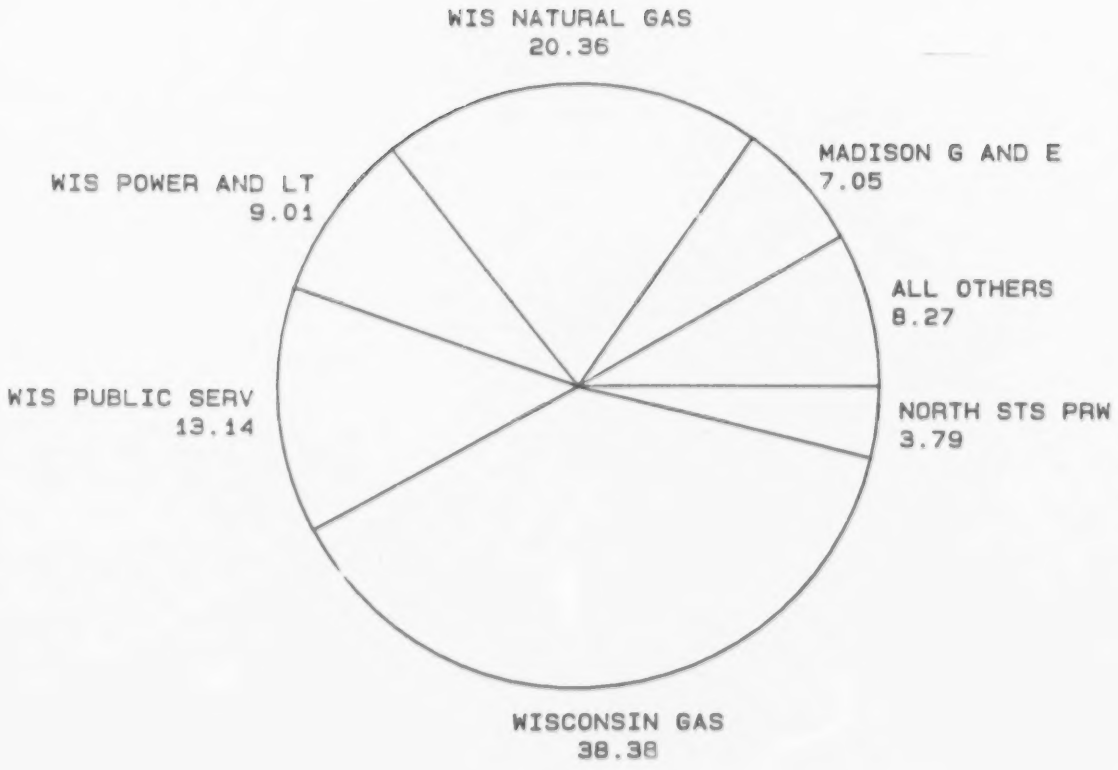


CHART 20

REVENUES OF WISCONSIN GAS UTILITIES
IN PERCENT OF TOTAL SALES TO ULTIMATE CONSUMERS
1988

SUM OF PERCENT BY UTILITY



Revenue and Consumption Ratios

The following table shows average revenue per therm, therms sold per customer and revenue per customer for each of the principle classes of service.

	1988	1987	1986
Revenue Per Therm (Cents)			
Residential - General	70.7	71.4	73.2
Residential - Space Heating	58.5	59.2	61.1
Commercial and Industrial - Firm	44.4	44.9	46.3
Commercial and Industrial - Interruptible	33.9	33.5	36.8
Commercial and Industrial - Space Heating	47.5	47.9	50.4
Therms Per Customer			
Residential - General	278	266	286
Residential - Space Heating	1,209	1,054	1,158
Commercial and Industrial - Firm	25,140	25,268	36,172
Commercial and Industrial - Interruptible	157,052	165,784	394,355
Commercial and Industrial - Space Heating	6,650	6,077	6,897
Revenue Per Customer			
Residential - General	$ 196	$ 190	$ 209
Residential - Space Heating	707	624	708
Commercial and Industrial - Firm	11,166	11,338	16,751
Commercial and Industrial - Interruptible	53,170	55,449	145,007
Commercial and Industrial - Space Heating	3,162	2,911	3,473

Revenue per therm decreased for all classifications in 1988 except commercial and industrial interruptible. Therms sold per customer decreased for commercial and industrial firm and interruptible classifications. Revenue per customers increased for all classes of service except commercial and industrial firm and interruptible. Charts 17, 18 and 19 presents a comparison of average residential spaceheating bills and consumption over a 9-year period.

Gas Utility Plant Statistics

Table 14 supplies a summary of operating and plant statistics of the gas utility industry in Wisconsin. Over 99.9% of the 3,139 million therms delivered to mains in 1988 was natural gas. Almost 21,004 miles of main were in service at the close of 1988, exclusive of that owned by the pipeline companies. This presents a 2.74% increase over a year earlier.

Data on Individual Utilities

Individual company statistics for 1988 are presented in Table 15. Chart 20 shows a breakdown by company of total sales to ultimate consumers. The Wisconsin Gas Company accounted for 38% of total sales revenue from ultimate consumers and the five largest utilities made up 88% of the total.

TABLE 12

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN GAS UTILITIES 1/
1988-1986

	1988	1987	1986
Operating Revenues			
Sales to Ultimate Consumers	$ 1,191,045,505	$ 1,058,990,881	$ 1,339,930,046
Sales to Other Gas Utilities	0	0	0
Total Sales of Gas	$ 1,191,045,505	$ 1,058,990,881	$ 1,339,930,046
Other Operating Revenues	51,585,849	55,703,076	15,829,023
Total Operating Revenues	$ 1,242,631,354	$ 1,114,693,957	$ 1,355,759,069
Operating Expenses			
Production			
Other Gas Expenses	$ 652,221	$ 221,322	$ 329,885
Purchased Gas - Natural	831,804,871	752,633,393	981,166,767
Storage	1,102,796	805,158	706,193
Total Production Expense	$ 833,559,888	$ 753,659,873	$ 982,202,845
Transmission and Distribution	65,088,748	59,618,761	59,452,887
Customer Accounts	50,740,934	51,756,030	54,707,911
Customer Services	28,869,849	28,405,425	26,480,653
Sales Promotion	4,656,802	4,031,810	3,722,098
Administrative and General	67,785,685	60,798,867	63,971,410
Total Operation and Maint.	$ 1,050,701,906	$ 958,270,766	$ 1,190,537,804
Depreciation 2/	57,706,220	56,378,486	55,664,535
Taxes Other than Income Taxes	20,348,415	22,455,252	24,668,845
Income Taxes	30,600,591	20,040,811	27,807,934
Total Operating Expenses	$ 1,159,357,132	$ 1,057,145,315	$ 1,298,679,118
Net Operating Revenues	$ 83,274,222	$ 57,548,642	$ 57,079,951

1/ Excluding out-of-state operations except where noted.
2/ Including amortization of plant acquisition adjustments, conversion costs, and other utility plant not subject to charges for depreciation.

TABLE 13

SALES TO ULTIMATE CUSTOMERS BY CLASSES
WISCONSIN GAS UTILITIES 1/
1988-1986

	1988	1987	1986
Revenue from Gas Sold to Ultimate Consumers			
Residential - General	$ 15,818,940	$ 15,787,296	$ 17,855,600
Residential - Space Heating	700,891,651	603,701,083	668,594,469
Commercial and Industrial Firm	89,541,284	92,261,231	139,769,007
Commercial and Industrial Interruptible	74,278,092	70,586,042	195,614,830
Commercial and Industrial Space Heating	304,147,667	270,889,528	312,339,530
Interdepartmental	6,367,871	5,765,701	5,756,610
Total	$ 1,191,045,505	$ 1,058,990,881	$ 1,339,930,046
Therms of Gas Sold to Ultimate Consumers			
Residential - General 2/	22,377,639	22,092,079	24,407,578
Residential - Space Heating	1,198,457,195	1,020,022,501	1,094,464,962
Commercial and Industrial Firm	201,599,020	205,606,935	301,820,741
Commercial and Industrial Interruptible	219,402,203	211,042,900	531,985,466
Commercial and Industrial Space Heating	639,772,402	565,582,741	620,220,724
Interdepartmental	20,520,368	17,350,811	15,196,044
Total	2,302,128,827	2,041,697,967	2,588,095,515
Average Number of Customers			
Residential - General 2/	80,615	83,158	85,480
Residential - Space Heating	991,631	967,711	944,962
Commercial and Industrial Firm	8,019	8,137	8,344
Commercial and Industrial Interruptible	1,397	1,273	1,349
Commercial and Industrial Space Heating	96,202	93,070	89,921
Interdepartmental	7	7	8
Total	1,177,871	1,153,356	1,130,064

1/ Excluding out-of-state operations.
2/ The decline in Residential General consumption and customers is due to the transfer of Residential Customers to the Residential Space Heating classification when gas furnaces are installed.

TABLE 14

OPERATING AND PLANT STATISTICS
WISCONSIN GAS UTILITIES 1/
1988-1986

	1988	1987	1986
Disposition of Gas Delivered to			
Mains (Therms)			
Gas Sold in Wisconsin			
To Ultimate Consumers	2,302,128,827	2,041,697,967	2,574,971,561
To Other Gas Utilities	0	0	0
Total	2,302,128,827	2,041,697,967	2,574,971,561
Gas Used by Company	6,203,827	5,688,830	6,162,082
Transport Gas Out	843,511,705	743,164,622	272,749,189
Total Sold, Used and Transported Gas	3,151,844,359	2,790,551,419	2,853,882,832
Gas Unaccounted for	(13,240,424)	(36,973,573)	11,646,786
Gas Delivered to Mains	3,138,603,935	2,753,577,846	2,865,529,618
Percentage of Gas Unaccounted for	(0.42)%	(1.34)%	0.41 %
Gas Produced (Therms)			
Liquefied Petroleum Gas	27,055	8,400	10,753
Natural Gas Purchased (Therms)			
From ANR Company	1,612,551,426	1,600,901,407	2,244,982,830
From Natural Gas Pipe Line Co.	64,037,860	55,659,540	74,498,140
From Midwest Gas Transmission Company	9,926,690	8,779,900	11,556,798
From Northern Natural Gas Co.	232,535,101	213,832,919	250,831,139
Other Gas Pipelines	379,357,130	131,289,718	13,218,906
Total Natural Gas Purchase	2,298,408,207	2,010,463,484	2,595,087,813
Total Gas Produced & Purch.	2,298,435,262	2,010,471,884	2,595,098,566
Net Inventory Change	(3,222,859)	2,062,083	(2,327,976)
Transport Gas In	843,391,532	741,043,879	272,759,028
Gas Delivered to Mains	3,138,603,935	2,753,577,846	2,865,529,618
Miles of Distribution and Transmission Mains 2/	21,004	20,443	20,042

1/ Excluding out-of-state operations.
2/ Not including transmission mains owned by pipeline companies.

TABLE 15

CONDENSED SUMMARY OF 1988 OPERATIONS
INDIVIDUAL GAS UTILITIES 1/

Utilities	Operating Revenue 2/	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Income Taxes	Net Operating Revenues	Therms Sold 2/	Therms Produced	Therms Purchased 3/6/	Therms Produced & Purchased	Average Number of Customers 2/
Class A and B											
City Gas Co. of Antigo	$ 3,762,946	$ 3,307,840	$ 106,534	$ 66,606	$ 75,008	$ 206,958	5,967,420	0	6,201,742	6,201,742	3,540
Madison Gas & Elec. Co.	87,571,250	72,135,926	5,153,847	1,476,672	1,380,645	7,424,160	167,148,171	4,186	167,535,380	167,539,566	80,335
Midwest Natural Gas Co.	3,468,947	2,999,681	128,236	62,841	110,800	167,389	10,279,608	0	10,524,550	10,524,550	4,117
Northern States Power Co.	47,068,012	40,234,676	2,300,507	706,962	1,197,835	2,628,032	126,751,727	0	137,020,751	137,020,751	44,523
Superior Water, Light & Power Co.	8,860,334	7,662,366	395,673	169,482	204,998	427,815	19,080,701	20,890	19,694,850	19,715,740	8,845
Wisconsin Fuel & Light Co.	44,652,923	39,493,472	1,658,775	803,165	729,703	1,967,808	88,444,280	0	86,934,750	86,934,750	40,291
Wisconsin Gas Company	476,903,668	399,756,427	20,952,483	8,074,539	13,578,596	34,541,623	843,410,330	0	818,423,816	818,423,816	430,785
Wisconsin Natural Gas Company	252,953,253	213,091,156	12,644,063	3,320,290	5,119,648	18,778,096	443,774,189	0	442,959,025	442,959,025	244,013
Wisconsin Power & Light Co.	111,988,525	98,287,357	6,214,539	2,171,544	2,137,684	3,177,401	207,761,560	0	215,190,248	215,190,248	112,016
Wisconsin Public Service Corp.	163,334,627	138,562,320	6,245,674	2,646,904	4,922,978	10,956,751	303,429,292	0	304,812,749	304,812,749	162,517
Wisconsin Southern Gas Co.	36,511,177	30,160,981	1,714,588	744,670	1,112,386	2,778,552	72,242,594	1,802	72,168,938	72,170,740	41,082
Subtotal	$1,237,075,662	$1,045,692,202	$57,514,919	$20,243,675	$30,570,281	$83,054,585	2,288,289,872	26,878	2,281,466,799	2,281,493,677	1,416,077
Class C & D 5/											
Elroy Gas, Inc.	505,381	449,754	17,683	11,953	(261)	26,252	1,002,386	0	1,002,770	1,002,770	489
Muny Natural Gas Co. 4/	1,098,146	1,011,229	21,876	23,300	0	41,741	3,002,572	0	3,030,470	3,030,470	990
Natural Gas, Inc.	1,372,036	1,194,203	52,885	26,287	18,119	80,542	3,342,765	0	3,252,050	3,252,050	880
St. Croix Valley Natural Gas Co.	2,580,129	2,354,518	98,857	43,200	12,452	71,102	6,491,232	177	6,544,310	6,544,487	3,448
Subtotal	$ 5,555,692	$ 5,009,704	$ 191,301	$ 104,740	$ 33,310	$ 219,637	13,838,955	177	13,829,600	13,829,777	5,807
Total All Utilities	$1,242,631,354	$1,050,701,906	$57,706,220	$20,348,415	$30,600,591	$83,274,222	2,302,128,827	27,055	2,295,296,399	2,295,323,454	1,421,884

( ) Denotes Negative Figure.
1/ Data includes Wisconsin operations only.
2/ Includes Interdepartmental Sales and Sales for Resale.
3/ Out-of-state sales by Lake Superior District Power, Wisconsin Public Service Corporation and Wisconsin Power & Light Co. were subtracted from the therms purchased figure to give an estimated figure for Wisconsin only.
4/ Municipally owned.
5/ There are no Class D private gas utilities.
6/ Net Interchange and Net Transport Gas included.

TELEPHONE UTILITY SUMMARY

Comparative statistics of telephone utilities in Wisconsin during the period 1986-1988 are presented in this session. In addition, selected data over a 10-year period are presented in Chart 21. The coverage is summarized below:

Table 16 - Comparative Statement of Revenues and Expenses, Wisconsin Telephone Utilities, 1988-1986
Table 17 - Access Lines Served by Wisconsin Telephone Utilities, 1988-1986
Table 18 - Condensed Summary of 1988 Operations, Individual Telephone Utilities

Chart 21 - Comparison of Revenues and Expenses, Wisconsin Telephone Utilities, 1979-1988

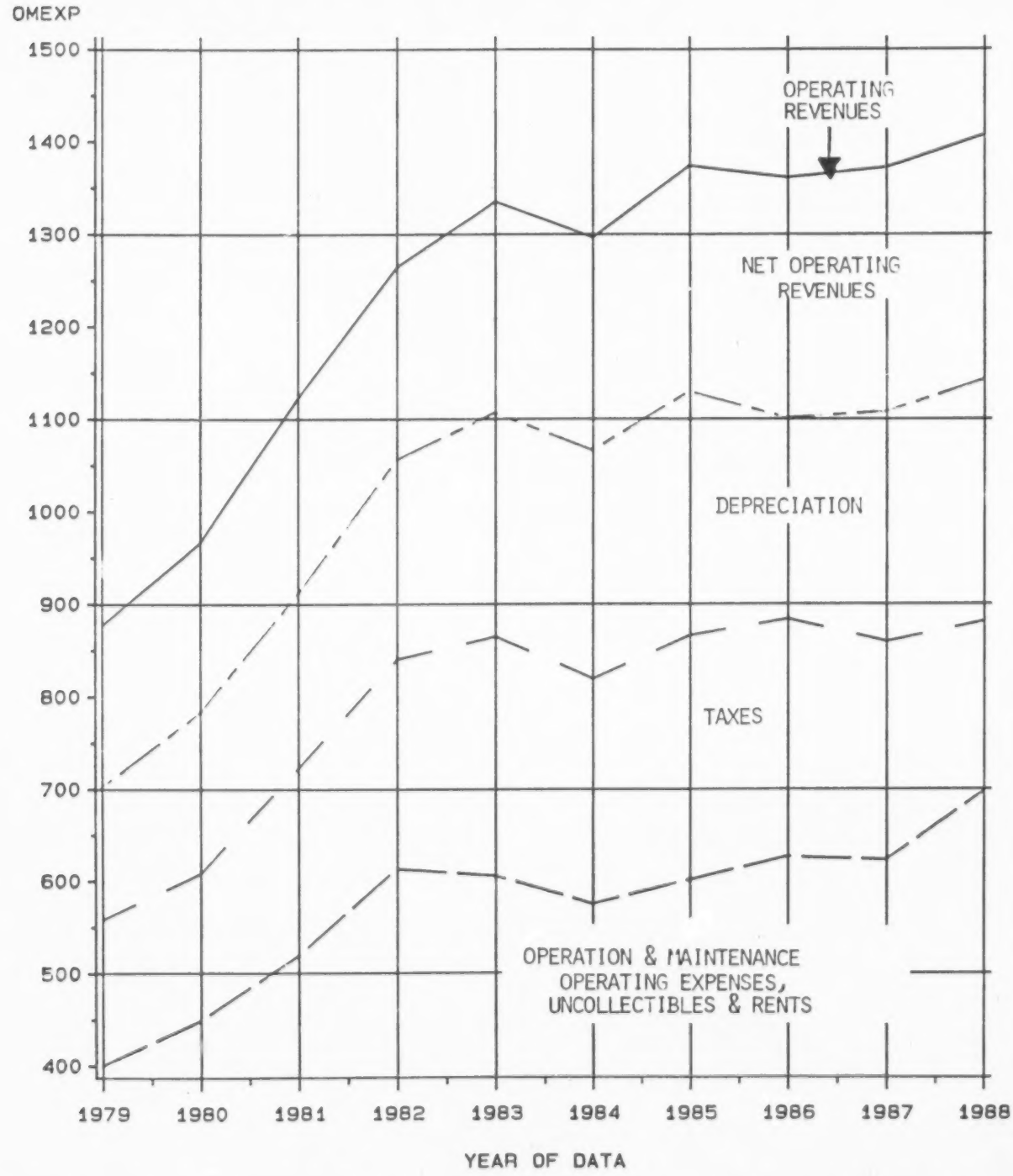
Telephone Utility Revenues and Expenses

Table 16 shows that telephone revenues in Wisconsin increased over $34.8 million in 1988, or 2.5%. Total operating expenses were up about $34.7 million, a 3.1% increase. Net operating revenue was up about $68.7 thousand or 0.03%.

Toll service revenues increased 1.35% during the year. Local service revenues also increased by 4.75%.

CHART 21

WISCONSIN TELEPHONE UTILITIES REVENUES AND EXPENSES



Access Line Data

Access Line data is presented in Table 17. About 2.4 million access lines were in service at the close of 1988. Approximately 77% are used by residential subscribers and 23% by business subscribers.

Individual Companies

Table 18 presents individual company data for each of the 99 companies operating in the State. The Wisconsin Bell Company alone accounted for 68.6% of the revenues and served 66.9% of the customer access lines. General Telephone Company accounted for another 15.3% of the total revenues and served 14.9% of the access lines.

TABLE 16

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN TELEPHONE UTILITIES
1988-1986

	1988	1987	1986
Operating Revenues			
Exchange Service Revenue	$ 576,120,929	$ 587,895,117	$ 574,947,490
Access Revenues	461,929,043	440,972,555	445,252,064
Toll Service Revenue	218,253,732	215,349,920	203,880,795
Miscellaneous Oper. Rev. 1/	150,832,080	128,121,766	136,990,323
Total Operating Revenues	$ 1,407,135,784	$ 1,372,339,358	$ 1,361,070,672
Operating Expenses			
Plant Specific Operations Exp.	$ 191,160,576		
Plant Nonspecific Oper. Exp.	152,937,443		
Customer Operations Exp. 1/	171,612,602		
Corporate Operations Exp.	183,122,455		
Other Expenses	(101,145)		
Total Operation and Maintenance 2/	$ 698,731,931	$ 624,936,245	$ 628,311,687
Depreciation and Amortization	262,477,405	249,774,847	218,560,598
Income Taxes 3/	182,761,063	234,531,608	255,478,208
Total Operating Expenses	$ 1,143,970,399	$ 1,109,242,700	$ 1,102,350,493
Net Operating Revenue	$ 263,165,385	$ 263,096,658	$ 258,720,179

1/ Contrary to normal procedure uncollectible revenues were included in the operating revenues and operation and maintenance expense data shown in this table. This was done to be consistent with the way it is handled for other types of utilities.
2/ Due to a new System of Accounts for telephones, it was not feasible to compare this year's breakdown of Operations and Maintenance Expense with the previous years.
3/ Taxes Other Than Income Taxes included.

TABLE 17

CUSTOMER ACCESS LINES SERVED BY WISCONSIN TELEPHONE COMPANIES
1988-1986

	December 31, 1988	December 31, 1987	December 31, 1986
Residential	1,827,743	1,795,785	1,764,956
Business 1/	544,660	519,104	490,842
Total Access Lines	2,372,403	2,314,889	2,255,798

1/ Includes pay and mobile lines.

TABLE 18

A SUMMARY OF 1988 OPERATIONS FOR INDIVIDUAL TELEPHONE UTILITIES

Utility	Operating Revenue 1/	Operation and Maintenance Expense 1/	Depreciation and Amortization Expense	Operating Taxes	Total Operating Expense	Net Operating Income	Access Lines End-of-Year 2/
Amery Telephone Company	$ 2100456.00	$ 793860.00	$ 470629.00	$ 340234.00	$ 1604723.00	$ 495733.00	4702
Amherst Telephone Company	1823285.00	529292.00	344960.00	351815.00	1226067.00	597218.00	3407
Badger Telecom, Inc.	1890718.22	921445.79	334919.42	248136.05	1504501.26	386216.96	3732
Baldwin Telecom, Inc.	1244196.00	584703.00	280412.00	103964.00	969079.00	275117.00	2726
Bayland Telephone Inc	677784.90	268416.32	134796.83	93595.77	496808.92	180975.98	1294
Belmont Telephone Company	315104.00	148855.00	63741.00	25696.00	238292.00	76812.00	695
Bergen Telephone Company	162872.62	84098.54	13151.00	25390.68	122640.22	40232.40	164
Black Earth Telephone Company	486785.13	282138.37	76738.26	63624.24	422500.87	64284.26	1072
Bloomer Telephone Company	994635.75	283099.11	236281.82	175411.80	694792.73	299843.02	2556
Bonduel Telephone Company	651565.72	353541.24	124688.49	87995.93	566225.66	85340.06	1421
Bruce Telephone Company, Inc	960359.12	326929.88	210365.70	124024.98	661320.56	299038.56	1278
Burlington Brighton & Wheatland Tel	1243042.16	673101.70	190157.37	160203.62	1023462.69	219579.47	2677
Casco Telephone Company	608675.00	285417.62	120021.87	57976.68	463416.17	145258.83	995
Cencom of Wisconsin, Inc.	11693615.00	5843461.00	2350039.00	1373317.00	9566817.00	2126798.00	20914
Central State Telephone Company	3966512.55	1810324.51	780138.26	543380.06	3133842.83	832669.72	6965
Century Telephone of Wis., Inc.	30613778.63	14526965.39	5949687.31	4397356.04	24874008.74	5739769.89	41805
Chequamegon Telephone Coop Inc	3163459.17	1198225.36	954463.19	0.00	2152688.55	1010770.62	5548
Chibardun Telephone Cooperative Inc	2115451.64	912084.31	501511.97	122627.87	1536224.15	579227.49	4395
Citizens Telephone Cooperative Inc	769584.00	250051.00	156993.00	41592.00	448636.00	320948.00	1636
Clear Lake Telephone Company, Inc	550144.28	269300.13	112772.23	62002.41	444074.77	106069.51	1172
Cochrane Cooperative Telephone Co	496118.00	237158.00	102778.00	26166.00	366102.00	130016.00	1044
Coon Valley Farmers Telephone Co	631394.17	227009.12	114997.33	106248.23	448254.68	183139.49	1879
Crandon Telephone Company	1275360.68	496371.02	377240.41	62367.72	935979.15	339381.53	2266
Cuba City Tel Exchange Co.	723500.00	248475.00	117555.00	104107.00	470137.00	253363.00	1428
Dickeyville Telephone Corporation	792041.00	628256.00	96707.00	21621.00	746584.00	45457.00	918
Dodge County Telephone Company	425432.99	262837.94	91360.97	14448.33	368647.24	56785.75	876
Fairwater Brandon Alto Telephone Co	638442.31	383068.17	111544.75	71724.51	566337.43	72104.88	1087
Farmers Independent Telephone Co	1008791.00	397689.00	184253.00	168432.00	750374.00	258417.00	2186
Farmers Telephone Company	2216879.00	711712.00	418816.00	402838.00	1533366.00	683513.00	5152
Fennimore Telephone Company	645394.47	367772.94	140323.75	47840.85	555937.54	89456.93	1541
Footville Telephone Company	389449.00	194659.00	99456.00	10342.00	304457.00	84992.00	775
Forestville Telephone Company, Inc	669834.79	329662.83	109060.77	91113.47	529837.07	139997.72	1782
GTE North Inc.- Wisconsin Operations	215746358.00	96919885.00	52639353.00	23755259.00	172314497.00	43431861.00	353050
Greenwood Telephone Company	611906.71	344109.36	120976.66	73252.01	538338.03	73568.68	1307
Hager City Telephone Company	972678.00	523076.00	178181.00	84466.00	785723.00	186955.00	1625

64.

TABLE 18 (Continued)

A SUMMARY OF 1988 OPERATIONS FOR INDIVIDUAL TELEPHONE UTILITIES

Utility	Operating Revenue 1/	Operation and Maintenance Expense 1/	Depreciation and Amortization Expense	Operating Taxes	Total Operating Expense	Net Operating Income	Access Lines End-of-Year 2/
Headwaters Telephone Company	$ 2572312.63	$ 663893.84	$ 833010.01	$ 261768.64	$ 1758672.49	$ 813640.14	3858
Hillsboro Telephone Company Inc	616912.25	301109.05	138031.56	43227.22	482367.83	134544.42	1378
Indianhead Telephone Co.	840609.00	329033.00	237095.00	70466.00	636594.00	203915.00	1594
La Valle Telephone Cooperative, Inc	652142.00	305723.00	195651.00	34454.00	535828.00	116314.00	1540
Lakefield Telephone Company	671809.00	243436.00	167307.00	78851.00	489594.00	182215.00	1259
Lakeshore Telephone Company	728009.99	453899.99	115407.20	57363.60	626670.79	101339.20	1568
Larsen-Readfield Telephone Company	681231.71	360818.92	136694.25	69407.97	566921.14	114310.57	1952
Lemonweir Valley Telephone Company	1284958.88	443028.34	253266.83	189952.77	886247.94	398710.94	2437
Luck Telephone Company	818911.00	373139.00	134435.00	128161.00	635735.00	183176.00	1808
Madeline Island Telephone Company	151425.78	89627.31	20231.72	12900.05	122759.08	28666.70	265
Manawa Telephone Company, Inc	1015614.72	446568.84	215729.08	105502.96	767800.88	247813.84	1822
Maple Telephone Cooperative, Inc	184031.03	99613.65	11944.63	4160.49	115718.77	68312.26	301
Marquette Adams Telephone Coop Inc	1329319.66	520437.32	315794.37	128988.02	965219.71	364099.95	2503
Mid-Plains Telephone Incorporated	8490638.00	3396672.00	1506945.00	1380283.00	6283900.00	2206738.00	16714
Midway Telephone Company	3276696.85	1311682.37	575782.57	533126.40	2420591.34	856105.51	6086
Milltown Mutual Telephone Company	815971.00	394937.00	158984.00	92709.00	646630.00	169341.00	1869
Mondovi Telephone Company	1357189.00	714830.00	202702.00	178272.00	1095804.00	261385.00	2100
Monroe County Telephone Company	3624797.40	1778683.92	599419.22	409186.84	2787289.98	837507.42	8450
Mosel & Centerville Telephone Co.	1496519.30	700455.65	301580.00	213287.31	1215322.96	281196.34	2794
Mosinee Telephone Company	1699508.00	815421.00	282452.00	221599.00	1319472.00	380036.00	3451
Mount Horeb Telephone Company	1712374.16	691515.43	338651.13	216108.49	1246275.05	466099.11	2863
Mount Vernon Telephone Company	2683266.47	1210838.38	661749.67	266963.88	2139551.93	543714.54	5135
Nelson Telephone Cooperative	1621281.59	586296.60	411613.07	77868.09	1175777.76	445503.83	3198
Niagara Telephone Company	1656680.00	728727.00	255642.00	240888.00	1225257.00	431423.00	3090
North-West Telephone Company	26172142.00	12542219.00	5096395.00	2455594.00	20093208.00	6078934.00	52024
Northeast Telephone Company	2151533.54	895435.60	439021.33	311916.38	1646373.31	505160.23	4621
Novy Telephone Company	242056.00	125484.00	19976.00	14101.00	159561.00	82495.00	516
Peoples Telephone Co (Mount Hope)	784382.53	434828.29	146807.86	87568.72	669204.87	115177.66	1623
Peoples Telephone Co, The (Randolph)	2990579.82	1110065.51	621952.98	399902.56	2131921.05	858658.77	5312
Platteville Telephone Company	4097510.00	1847767.00	827797.00	413089.00	3088653.00	1008857.00	7270
Price County Telephone Company	1815537.82	757292.08	404781.95	236304.91	1398378.94	417158.88	3565
Rhinelander Telephone Company	3786131.47	1672534.92	675494.00	606995.40	2955024.32	831107.15	10273
Rib Lake Telephone Company	559568.00	248265.00	117754.00	75993.00	442012.00	117556.00	1046
Richland Grant Telephone Cooperative	1139365.41	576678.06	295793.77	63105.87	935577.70	203787.71	2163
Rock River Telephone Company	746999.98	376634.93	137289.21	68933.75	582857.89	164142.09	1368

TABLE 18 (Concluded)

A SUMMARY OF 1988 OPERATIONS FOR INDIVIDUAL TELEPHONE UTILITIES

Utility	Operating Revenue 1/	Operation and Maintenance Expense 1/	Depreciation and Amortization Expense	Operating Taxes	Total Operating Expense	Net Operating Income	Access Lines End-of-Year 2/
Scandinavia Telephone Company	$ 1035221.53	$ 492547.38	$ 154977.17	$ 163394.69	$ 810919.24	$ 224302.29	1912
Sharon Telephone Company	628680.05	318251.11	60794.84	110161.12	489207.07	139472.98	977
Shell Lake Telephone Company	865329.00	341124.00	172467.00	135100.00	648691.00	216638.00	1793
Siren Telephone Company Incorporated	770460.00	322462.00	138424.00	123318.00	584204.00	186276.00	1722
Solon Springs Telephone Company	5472716.26	2567632.22	1131231.11	652938.30	4351801.63	1120914.63	13683
Somerset Telephone Company, Inc	652380.00	299954.00	106940.00	83733.00	490627.00	161753.00	1278
Southeast Telephone Co of Wisc, Inc	2447372.80	1131382.01	382040.79	299776.54	1813199.34	634173.46	5686
Spring Valley Telephone Company, Inc	456458.42	234464.18	95503.50	36052.24	366019.92	90438.50	819
St Croix Telephone Company	2943931.00	842521.00	627504.00	502440.00	1972465.00	971466.00	5239
State Long Distance Telephone Co	3372914.00	1661065.00	446053.00	588547.00	2695665.00	777249.00	5887
Stockbridge & Sherwood Telephone Co	1293072.11	633071.66	271526.29	178298.06	1082896.01	210176.10	2218
Sullivan Telephone Company	763891.00	254156.00	182822.00	109928.00	546906.00	216985.00	1618
Tenney Telephone Company	360857.51	362892.50	51323.48	-12645.25	401570.73	-40713.22	864
Thorp Telephone Company	992832.00	549778.00	162151.00	122783.00	834712.00	158120.00	1880
Tri-County Telephone Coop, Inc	1729288.88	776681.10	346731.10	109698.05	1233010.25	496278.63	3273
Turtle Lake Telephone Company Inc	511931.00	264875.00	70830.00	61790.00	397495.00	114436.00	1136
UTELCO, Inc.	6317897.00	3147186.00	856098.00	715366.00	4718650.00	1599247.00	12333
Union Telephone Company	1965281.00	648583.00	388947.00	321362.00	1358892.00	606389.00	3173
Universal Tel Co of Northern Wis Inc	4903352.22	2192916.91	1020021.84	651408.06	3864346.81	1039005.41	10868
Urban Telephone Corporation	7170385.94	3213592.17	1327602.45	907196.12	5448390.74	1721995.20	15991
Valders Telephone Company	965172.75	512436.97	186560.64	110131.65	809129.26	156043.49	1807
Vernon Telephone Cooperative	2435667.08	1122554.71	556239.33	151155.14	1829949.18	605717.90	5237
Viroqua Telephone Company	1981329.39	996470.48	297990.62	340818.97	1635280.07	346049.32	2955
Waunakee Telephone Company Inc	1528323.22	797593.49	238329.44	288321.76	1324244.69	204078.53	3539
Wayside Telephone Company	593164.00	283979.00	125143.00	56609.00	465731.00	127433.00	1196
West Wisconsin Telcom Coop, Inc	2365344.00	804336.00	581150.00	153872.00	1539358.00	825986.00	3618
Wisconsin Bell, Inc.	964956784.00	499987232.00	165155512.00	131633775.00	796776519.00	168180265.00	1586360
Wittenberg Telephone Company	984411.00	376661.00	185012.00	140806.00	702479.00	281932.00	1762
Wood County Telephone Company	8927796.00	4430888.00	1996227.00	837458.00	7264573.00	1663223.00	20013
Total	$1407135784.16	$698731930.54	$262477405.37	$182761063.02	$1143970398.93	$263165385.23	2372403

1/ Contrary to normal procedure uncollectible revenues were included in the operating revenues and operation and maintenance expense data shown in this table. This was done to be consistent with the way it is handled for other types of utilities.

2/ Access lines include only business and residential lines.

WATER UTILITIES

Comparative statistics of water utilities operating in Wisconsin during the period from 1986 through 1988 are presented in this section. Chart 22 shows a summary of the income account over a ten-year period. The coverage is summarized below:

Table 19 - Comparative Statement of Revenue and Expenses Wisconsin Water Utilities, 1988-1986.
Table 20 - Operating and Plant Statistics, Wisconsin Water Utilities, 1988-1986.
Table 21 - Condensed summary of 1988 Operations, Individual Water Utilities

Chart 22 - Comparison of Revenues and Expenses, Wisconsin Water Utilities, 1979-1988.

Water Utility Revenues and Expenses

Chart 22 shows that revenues and expenses advanced steadily over the past nine years. Taxes are up 96.7% for the period while operation and maintenance expenses are up 81.3%, depreciation rose 65.9%, operating revenues rose 92.7% and net operating revenue increased 167.4%.

Revenues increased 11.99% and operating expenses were up 10.24% during 1988. Net operating revenue increased 20.08%.

Operating and Plant Statistics

The total number of water customers served increased 2.12% in 1988. Gallons of water pumped was up 15.36%. Electric pumpage accounted for 100.0% of the total. Total miles of main increased 3.05%.

Data on Individual Utilities

Table 21 shows selected data on each Class A and B water utility, all but two of which are municipally owned. The table also shows totals for the smaller utilities. Municipal utilities accounted for 96.3% of the total operating revenue and served 97.3% of the customers. Superior, served by Superior Water, Light, and Power Company, and Beloit and Ripon served by Wisconsin Power and Light Company, were the largest cities served by private utilities.

CHART 22

WISCONSIN WATER UTILITIES REVENUES AND EXPENSES

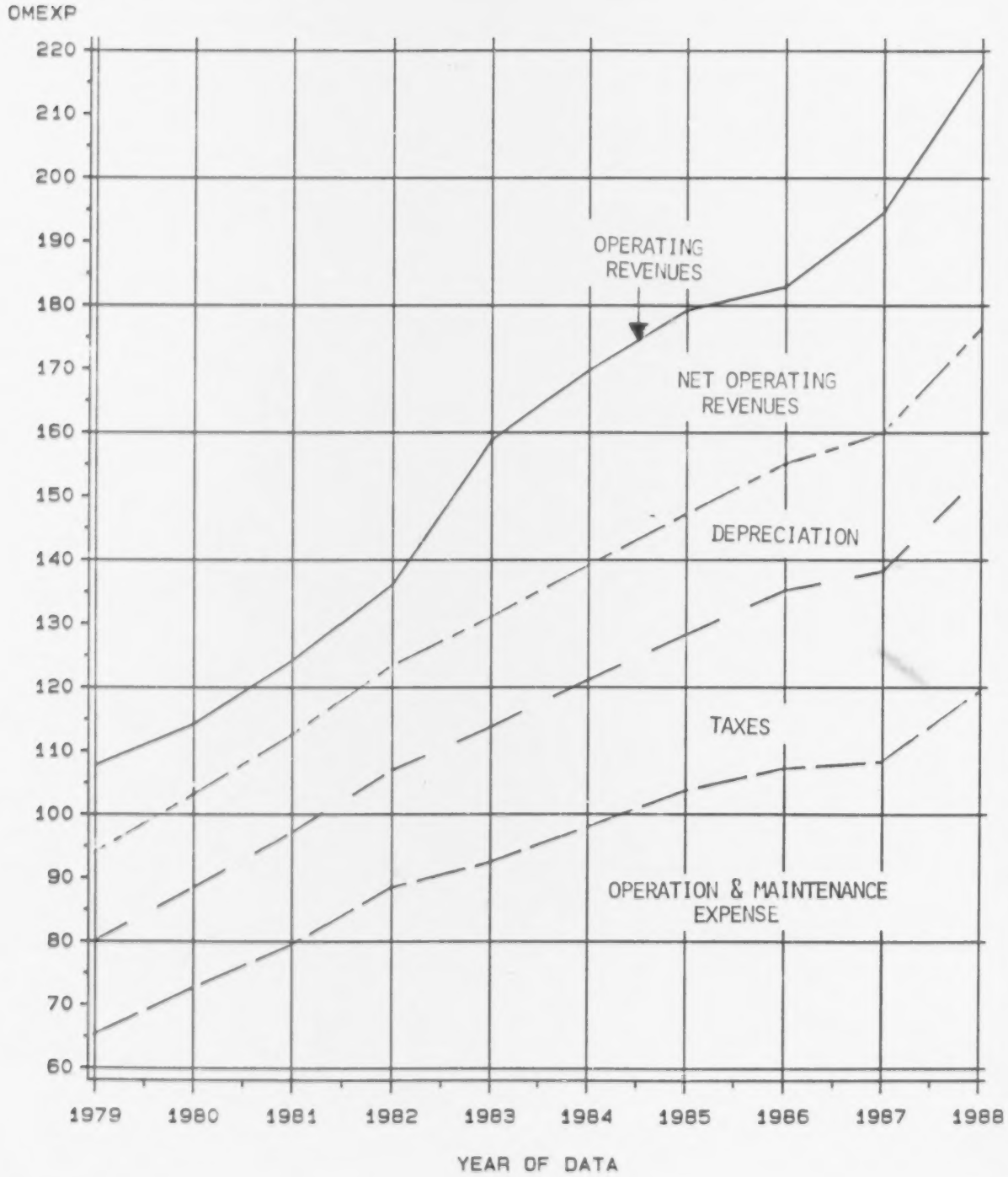


TABLE 19

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN WATER UTILITIES
1988-1986

	1988	1987	1986
All Water Utilities			
Operating Revenues			
Sales to General Consumers	$ 162,721,515	$ 143,799,310	$ 134,477,498
Interdepartmental Sales	153,298	151,195	132,906
Sales to Other Water Utilities	5,852,466	4,906,039	4,698,036
Fire Protection and Other Municipal Sales	45,379,887	42,188,287	39,923,610
Total Sales of Water	$ 214,107,166	$ 191,044,831	$ 179,232,050
Miscellaneous Operating Revenue	3,865,584	3,592,439	3,709,867
Total Operating Revenues	$ 217,972,750	$ 194,637,270	$ 182,941,917
Operating Expenses			
Source of Water Supply (Excluding Purchases)	$ 2,058,126	$ 1,731,457	$ 1,664,306
Water Purchases	7,073,257	5,916,111	5,835,915
Pumping Expenses	27,918,012	25,803,950	26,134,808
Purification	15,825,694	14,457,813	13,945,457
Total Production Expense	$ 52,875,089	$ 47,909,331	$ 47,580,486
Transmission and Distribution	31,464,442	27,386,324	27,785,388
Customer Accounts	7,449,803	7,263,684	7,226,240
Sales	24,454	2,290	21,121
Administrative and General Expenses	27,600,851	25,815,596	24,672,531
Total Operation and Maintenance Expense	$ 119,414,639	$ 108,377,225	$ 107,285,766
Depreciation and Amortization	23,035,649	21,684,370	19,932,315
Taxes Other Than Income Taxes	32,879,279	29,659,995	27,491,522
Income Taxes	1,025,558	256,283	413,115
Total Operating Expenses	$ 176,355,125	$ 159,977,873	$ 155,122,718
Net Operating Revenues	$ 41,617,625	$ 34,659,397	$ 27,819,199

TABLE 19 (Concluded)

COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
WISCONSIN WATER UTILITIES
1988-1986

	1988	1987	1986
Private Water Utilities			
Total Operating Revenues	$ 8,041,197	$ 7,221,516	$ 6,525,523
Operation and Maintenance	3,710,244	3,501,077	3,644,593
Depreciation and Amortization	650,188	723,557	703,452
Taxes Other Than Income Taxes	436,051	396,904	406,943
Income Taxes	1,025,558	256,283	413,115
Total Operating Expenses	$ 5,822,041	$ 4,877,821	$ 5,168,103
Net Operating Revenues	$ 2,219,156	$ 2,343,695	$ 1,357,420
Municipal Utilities			
Total Operating Revenues	$209,931,553	$187,415,754	$176,416,394
Operation and Maintenance	115,704,395	104,876,148	103,641,173
Depreciation and Amortization	22,385,461	20,960,813	19,228,863
Taxes Other Than Income Taxes	32,443,228	29,263,091	27,084,579
Total Operating Expenses	$170,533,084	$155,100,052	$149,954,615
Net Operating Revenues	$ 39,398,469	$ 34,659,397	$ 26,461,779

TABLE 20

OPERATING AND PLANT STATISTICS
WISCONSIN WATER UTILITIES
1988-1986

	1988	1987	1986
Average Number of Customers			
Residential	890,428	885,277	873,861
Commercial	112,344	96,674	95,686
Industrial	8,956	8,781	7,597
Total	1,011,728	990,732	977,144
Private Utilities	27,206	24,476	26,955
Municipal Utilities	984,522	966,256	950,189
Total	1,011,728	990,732	977,144
Gallons of Water Pumped Into Distribution System (000 Omitted)			
Electric	225,479,234	195,459,755	189,109,940
Internal Combustion	0	0	0
Steam	0	0	0
Purchased	14,068,533	11,325,353	13,108,519
Total	239,547,767	206,785,108	202,218,459
Private Utilities	4,607,686	4,335,108	4,308,307
Municipal Utilities	234,940,081	202,450,000	197,910,152
Total	239,547,767	206,785,108	202,218,459
Miles of Distribution Main on December 31			
Private Utilities	338	362	362
Municipal Utilities	14,557	14,092	13,874
Total	14,895	14,454	14,236

TABLE 21

CONDENSED SUMMARY OF 1988 OPERATIONS
INDIVIDUAL WATER UTILITIES

Utilities	Operating Revenues	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Income Taxes	Total Operating Expenses	Net Operating Revenues	Average Number of Customers 1/
Private Utilities Class A & B								
Superior Water, Light & Power Co. (SWLP)	$ 3,557,069	$ 1,526,593	$ 146,361	$ 207,573	$ 341,039	$ 2,221,566	$ 1,335,503	9,409
Wisconsin Power & Light Co. (WPL)	4,188,803	1,954,478	466,149	212,237	683,683	3,316,547	873,256	16,136
Subtotal	$ 7,745,872	$ 3,481,071	$ 611,510	$ 419,810	$ 1,024,722	$ 5,537,113	$ 2,208,759	25,545
10 Class D Water Utilities 2/	295,325	229,173	38,678	16,241	836	284,928	10,397	1,870
Total Private Utls.	$ 8,041,197	$ 3,710,244	$ 650,188	$ 436,051	$ 1,025,558	$ 5,822,041	$ 2,219,156	27,415
Municipal Utilities Class A								
Appleton	$ 4,558,185	$ 2,437,213	$ 449,337	$ 623,021	$ 0	$ 3,509,571	$ 1,048,614	21,881
Cudahy	1,400,830	678,857	133,733	228,624	0	1,041,214	359,616	5,252
Eau Claire	3,716,191	1,715,731	379,773	640,830	0	2,736,334	979,857	19,098
Fond du Lac	1,770,628	1,113,983	149,406	234,215	0	1,497,604	273,024	12,836
Glendale	1,161,980	788,278	149,185	137,244	0	1,074,707	87,273	4,528
Green Bay	5,841,079	2,672,319	726,728	746,552	0	4,145,599	1,695,480	33,213
Janesville	1,925,264	1,045,192	207,887	392,988	0	1,646,067	279,197	17,848
Kaukauna	736,531	623,532	69,074	118,777	0	811,383	(74,852)	3,975
Kenosha	5,251,603	2,831,940	481,234	609,902	0	3,923,076	1,328,527	23,823
La Crosse	2,863,406	1,493,147	261,756	476,891	0	2,230,794	632,612	15,460
Madison	8,169,123	4,888,478	988,228	1,449,841	0	7,326,547	842,576	49,585
Manitowoc	2,538,804	1,276,321	222,809	334,616	0	1,833,746	705,058	11,538
Marinette	1,081,303	733,519	98,308	164,084	0	995,911	85,392	4,740
Marshfield	899,030	568,114	68,062	125,438	0	761,614	137,416	6,575
Milwaukee	41,097,609	24,958,829	3,551,868	5,714,891	0	34,225,588	6 872,021	162,393
Neenah	1,505,346	1,007,765	164,188	222,565	0	1,394,518	110,828	8,695
Oshkosh	3,111,701	1,514,680	261,298	437,449	0	2,213,427	898,274	18,294
Racine	5,999,001	3,544,444	451,125	731,267	0	4,726,836	1,272,165	28,589
Sheboygan	2,493,012	1,495,310	149,585	356,671	0	2,001,566	491,446	17,250
South Milwaukee	1,041,715	746,003	75,541	146,963	0	968,507	73,208	5,928
Waukesha	3,877,103	2,300,676	399,125	609,635	0	3,309,436	567,667	13,976
Wausau	2,531,356	1,307,208	217,223	394,556	0	1,918,987	612,369	13,425
Wauwatosa	3,573,643	2,632,355	199,219	426,024	0	3,257,598	316,045	15,659
West Allis	3,963,873	2,673,098	273,479	554,463	0	3,501,040	462,833	18,913
Wisconsin Rapids	1,574,026	1,018,655	127,066	317,529	0	1,463,250	110,776	7,029
Subtotal	$ 112,682,342	$ 66,065,647	$ 10,255,237	$ 16,194,036	$ 0	$ 92,514,920	$ 20,167,422	540,492

TABLE 21 (Concluded)

CONDENSED SUMMARY OF 1988 OPERATIONS
INDIVIDUAL WATER UTILITIES

Utilities	Operating Revenues	Operation and Maintenance	Depreciation and Amortization	Taxes Other Than Income Taxes	Income Taxes	Total Operating Expenses	Net Operating Revenues	Average Number of Customers 1/
Municipal Utilities (Continued) Class B								
Allouez	$ 833,491	$ 677,020	$ 75,104	$ 88,296	$ 0	$ 840,420	$ (6,929)	4,908
Ashland	593,033	526,606	41,686	102,447	0	670,739	(77,706)	3,068
Beaver Dam	745,871	517,265	62,742	117,812	0	697,819	48,052	5,417
Brown Deer	837,868	557,816	78,671	123,951	0	760,438	77,430	3,441
Cedarburg	522,646	272,431	79,013	101,308	0	452,752	69,894	2,938
Chippewa Falls	1,101,863	626,642	106,480	187,803	0	920,925	180,938	4,450
De Pere	812,136	404,406	93,417	181,143	0	678,966	133,170	5,504
Greendale	896,494	668,800	61,204	127,457	0	857,461	39,033	4,629
Jefferson	437,800	215,307	41,378	56,982	0	313,667	124,133	1,971
Menasha, Twn. S.D. 4	1,147,975	651,073	192,999	17,867	0	861,939	286,036	4,594
Menasha, City	2,091,584	1,361,458	131,797	258,115	0	1,751,370	340,214	4,967
Menomonee Falls	1,884,567	660,774	206,799	449,035	0	1,316,608	567,959	6,085
New Berlin	2,388,534	746,799	299,619	564,361	0	1,610,779	777,755	6,848
New London	594,957	201,595	39,988	75,966	0	317,549	277,408	2,406
Oak Creek	2,621,431	943,506	385,559	659,054	0	1,988,119	633,312	4,227
Oconomowoc	780,857	381,821	80,810	111,043	0	573,674	207,183	3,444
Platteville	581,271	350,384	74,634	121,782	0	546,800	34,471	2,771
Plymouth	622,531	449,182	38,893	71,387	0	559,462	63,069	2,357
Port Washington	1,350,307	556,521	132,790	209,519	0	898,830	451,477	3,070
Rib Mountain	506,417	174,995	136,102	5,162	0	316,259	190,158	1,420
Rice Lake	561,711	352,887	39,759	73,199	0	465,845	95,866	3,154
River Falls	365,648	223,857	34,985	64,775	0	323,617	42,031	2,573
Shawano	530,099	148,698	51,245	68,436	0	268,379	261,720	3,047
Sheboygan Falls	804,859	479,323	60,652	64,316	0	604,291	200,568	2,159
Shorewood	593,565	542,005	23,116	33,220	0	598,341	(4,776)	3,554
Stevens Point	1,100,241	539,039	84,223	192,488	0	815,750	284,491	6,730
Sturgeon Bay	955,439	365,843	126,007	198,862	0	690,712	264,727	3,695
Sun Prairie	566,857	301,748	56,837	101,469	0	460,054	106,803	4,486
Tomahawk	329,197	153,382	37,443	79,843	0	270,668	58,529	1,282
Two Rivers	844,456	463,280	60,901	118,890	0	643,071	201,385	4,797
Waterloo	129,588	118,399	11,111	20,013	0	149,523	(19,935)	861
Watertown	988,660	499,611	113,142	155,466	0	768,219	220,441	6,055
Waupaca	549,977	297,648	47,162	81,612	0	426,422	123,555	1,841
Waupun	597,916	454,440	36,502	69,429	0	560,371	37,545	2,903
West Bend	1,314,832	659,060	151,904	217,734	0	1,028,698	286,134	7,026
Whitefish Bay	693,991	378,265	65,138	51,189	0	494,592	199,399	4,795
Subtotal	$ 32,278,669	$ 16,921,886	$ 3,359,812	$ 5,221,431	$ 0	$ 25,503,129	$ 6,775,540	137,473
Class C Utilities	41,485,548	20,600,092	5,146,448	6,827,257	0	32,573,797	8,911,751	195,155
Class D Utilities	23,484,994	12,116,770	3,623,964	4,200,504	0	19,941,238	3,543,756	121,421
Total Municipal Utls.	$209,931,553	$115,704,395	$ 22,385,461	$ 32,443,228	$ 0	$170,533,084	$ 39,398,469	994,541
Total All Utilities	$217,972,750	$119,414,639	$ 23,035,649	$ 32,879,279	$ 1,025,558	$176,355,125	$ 41,617,625	1,021,956

1/ Includes fire protection, public authorities, interpartmental and other water utility retail customers.

2/ There were no private Class C utilities in 1988.

3/ () Denotes a negative figure.

STEAM AND HOT WATER HEATING UTILITY SUMMARY

As shown in Table 22, steam and hot water heating utility operations in Wisconsin are not very extensive. Only two utilities rendered this service in 1988.

The Wisconsin Electric Power Company, operating in the city of Milwaukee, has by far the largest heating utility in the State, serving 500 customers at the close of 1988. Its net operating revenue for the year was $1,471,626.

The other community in which heating service was supplied during the year was Waterloo, served by a municipal utility. Waterloo had a net operating revenue for the year 1988 of $9,994.

TABLE 22

COMPARATIVE STATEMENT OF REVENUES, EXPENSES
AND STATISTICS FOR WISCONSIN STEAM AND HOT WATER
HEATING UTILITIES
1988-1986

	1988	1987	1986
Operating Revenues	$ 12,432,522	$ 10,565,921	$ 11,966,847
Operation and Maintenance	9,105,883	8,022,988	8,789,252
Depreciation	1,062,026	1,140,693	897,035
Taxes	782,993	585,162	1,020,573
Total Operating Expenses	$ 10,950,902	$ 9,748,843	$ 10,706,8700
Net Operating Revenues	$ 1,481,620	$ 817,078	$ 1,259,9727
Number of Customers	552	571	5787